

Leisure Time Electronics

Vol. 1, No. 2

THE BUYERS' GUIDE TO ALL LEISURE ELECTRONIC PRODUCTS

Fall 1980

VCRs gain 59 percent in first half

Videocassette recorders, which have penetrated an estimated two percent of the U.S. market, are showing rapid sales growth as consumers learn more about the expanding video world.

Sales of VCRs for the first half of 1980 advanced a healthy 58.8 percent over last year's comparable period, reports the Electronic Industries Association, with a total of 286,601 units sold to dealers so far. If this rate of growth continues through the second half, when more units are customarily bought, VCR sales for this year will total 755,786 units.

More consumer knowledge of products and the high costs of travel and other out-of-home entertainment are factors believed to be helping stimulate the sales curve.

The primary appeal of VCRs is control of programming—watching what you want to see when you want to see it. The video equivalent of the audio tape recorder, these units can be

Continued on Page 10

Computer sales up 45 percent



Today's personal computers can play games, be learning aids or help perform household tasks.

By KATHLEEN LANDER

While the completely computerized society—with shopping and work being done at home via terminal—is not yet a reality, the personal computer market is growing at a rate of 45 percent a year. This means that a computer in nearly every home is a conceivable possibility.

The young product category of personal computers has already

passed through several marketing stages and is anticipating others—including new homes where computer capability is built-in, just like plumbing or electrical wiring.

Today's personal computers can be toys, learning aids, games, information centers, and/or household necessities for performing a variety of tasks. Moving in two technological

directions at the same time, computer development is yielding products that are both easier to use and more sophisticated in what they do.

First available as parts for hobbyists and engineers, then pre-assembled in a complete package, computers were originally sold primarily through specialists to hobbyists. Most computer shops are now concentrating on sales to the small business market. However, a growing number of models aimed at the average consumer are appearing on the market, and these are being stocked in

Continued on Page 23

Video software entries aid market

By MILTON SCHULMAN

With the entry of all the major movie studios into the home video software market, an explosion is taking place in the number and quality of titles now

available for consumers' personal entertainment use.

This development represents a major step towards realizing the enormous potential of the emerging new home entertain-

ment systems, believe retailers and distributors.

Software comprises the key element in selling and building upon these systems, point out industry persons. They note that consumers frequently look at available software first, to determine whether or not to make a major investment in compatible hardware. Therefore, the ongoing release of attractive software will have a significant effect on the future size and profitability of the total home video market, it is felt.

Until now, retailers had only a limited selection of prerecorded videocassettes to offer consumers, points out Robert Moffet, national marketing manager for the 160-unit Video Station retail chain, headquartered in Los Angeles. "But the bigger the selection, the more business we can do. It's like the ice cream

Continued on Page 16

More retail outlets add computers

By BOB CITELLI

Just as more and more consumers are accepting the potential of personal computers in their homes and small businesses, retailers from various segments of the total merchant community are taking the plunge and stocking these machines in their stores.

Retailers who carry computers and their peripherals comprise a diverse group that includes mass merchants and department stores like Montgomery Ward

Continued on Page 19



"Bruce," star of the movie Jaws, drew large crowd while on loan from MCA-Universal to New York's Video Shack store.

Digest

PERSONAL COMPUTER MARKET GROWS AT 45 PERCENT ANNUAL RATE; A growing number of computers for in-house use are appearing on the market, offering capabilities for game playing, learning, as information centers, or for performing a variety of household tasks. Consumer interest in these products grows as more retailers provide educational programs 1

VIDEOCASSETTE RECORDER SALES REGISTER RAPID GROWTH; Penetrating an estimated two percent of the U.S. market, videocassette recorders showed a healthy 58.8 percent rise in sales during the first half of 1980. Market expansion is being aided by the availability of more software. 1

VIDEODISC MANUFACTURERS PREPARE BATTLEPLANS; Three incompatible systems will hit the market, backed by promotional support and separate software materials 15

ELECTRONIC GAMES PAVE WAY FOR COMPUTER SALES; G.A. (Tony) Clowes, president of Entex Industries, Inc., sees handheld electronic games conditioning consumers to buy more complex electronics, including personal computer systems 25

RADIO SHACK EDUCATES, PROMOTES COMPUTER LINE: The pace-setting retailer/manufacturer stresses consumer educational programs to provide familiarity with its home computers and stimulate their sales 26

POLK'S LINKS COMPUTER BUSINESS WITH ELECTRONIC GAMES; A leading hobby retailer forges a direct merchandising link between electronic games and sales of personal computers to hobbyists 27

COMPUTER BUSINESS IS HERE, GROWING RAPIDLY; Sy Lipper, president of APF Electronics, Inc., sees formidable reasons for retailers of all kinds to get involved with the home computer business now 35

ELECTRONICS SPAWN PROGRAMMABLE VEHICLE CATEGORY; New technologies have helped create a category of programmable vehicles that appeals to both youngsters and adults, and will get even more sophisticated 40

ELECTRONICS DESIGNER LINKS PRODUCT IDEAS WITH COST EFFICIENCY; Jay Smith III, president of Smith Engineering, looks at future advances in electronic technologies that will be the creative materials for today's "new breed" of product designer 42

DEPARTMENTS

Data Entry 4

Viewpoint 6

Computer Software 30

Video Software 37,38

Rep News 40

Vendors 41

People 41

Letters

Definition of LCD's

To the Editor:

Thank you for the first issue of LEISURE TIME ELECTRONICS. It appears to be an interesting and informative magazine and I wish you the best of success with it.

I am sorry to tell you, however, that the definition of a liquid crystal display, as it appears on page S32, is incorrect. These devices are neither diodes nor photosensitive crystals. A better definition is as follows:

Liquid Crystal Display (LCD): A flat device in which visible information is displayed by electronically controlling the movement of liquid crystal molecules. Liquid crystals are actually liquids; they possess the optical properties of crystals.

A number of different LCD devices are known but the most commonly used today is called the "twisted-nematic" LCD. This device is formed by sandwiching the liquid material between two glass plates, each having a thin, transparent conductive coating on its inner surface and a polarizing film on its outer surface. When placed against a bright reflector, the device appears white in the field off condition. Application of an electric field across the two plates causes the molecules to turn into the direction of the field, thereby changing the

appearance of the device from white to black. By selectively etching various patterns in the conductive coatings, it is possible to produce all types of black characters (eg., digits, letters, pictures) on a white background.

I hope this definition is helpful to you and to your readers.

Dr. Joseph A. Castellano,
President
Stanford Resources, Inc.
San Jose, Calif.
(Stanford Resources is a producer of LCD's—Editors)

Pleased with LTE

To the Editor:

Congratulations on a terrific introductory issue!

You have created a most comprehensive publication, which pulls together all of the information on leisure electronics in one place—a neat trick, and it should be of great benefit to those who are trying to understand this new industry.

LTE should become a "bible" for producers and marketers in the leisure electronics field. It was needed!

Jeri Turpin, vice president
Lewis & Associates
Los Angeles

We're interested in your comments and opinions. Write to Leisure Time Electronics, 124 E. 40th St., New York, N.Y. 10016.

Leisure Time Electronics

Volume 1, Number 2

Fall 1980

Editorial Office

124 East 40 Street
New York, New York 10016
(212) 953-0950

Circulation Department

P.O. Box 1226
Darien, Conn. 06820
Att: Alice Johnson

Co-Publishers: Harvey Stern and Stephen Bentkover

Editor: Milton Schulman

Associate Editor: Bob Citelli

Contributing Editor: Kathleen Lander

Advertising Managers: Judy Basis, Wendy H. Wolfson and Randi Fetner

Production Manager: Janelle Travers

Production Assistant: Linda Urquhart

Administrative Coordinator: Ida Deans

Weekly Report Subscription Manager: Meg Sparkman

Copyright © 1980 by LEISURE TIME ELECTRONICS. Published four times a year (Fall, Winter, Spring, Summer) by Charleson Publishing Co., 124 East 40th Street, New York, N.Y. 10016. David M. Charleson, president; Ira Ellenthal, executive vice-president; Harvey Stern, vice-president; Peter Ephraim, vice-president. Subscription rates \$14 per year, foreign \$40, airmail, \$90. Application to mail at controlled circulation postage rates is pending at East Stroudsburg, Pa. 18301.

Other Charleson publications: Toy & Hobby World, Modern Floor Coverings, Non-Foods Merchandising, T&HW Weekly Market Report, Product Marketing.

Justin/Conic acquires Wicely Corp.

NEW YORK—Justin/Conic, Inc., exclusive distributor in the U.S. for Conic International, Hong Kong, has acquired the Wicely Corporation of Jersey City, N.J.

Wicely is a major electronic repair company whose roster of clients is said to include the most well-known names in the electronic and toy industries. The firm employs 52 skilled technicians in its modern, 60,000 square-foot facilities.

Jack Winters, vice-president and chief operating officer of Wicely, assumes the additional responsibilities of vice-president of Justin.

"The addition of Wicely's service program to our expanded marketing mix means there is not an account in the country we cannot reach by offering the cost efficiencies of a factory direct program with the follow through of a domestic operation," says Ed Steele, president of Justin/Conic.

Conic, a major consumer elec-

tronics manufacturer, recently reached an agreement in principle to acquire a majority equity position in Justin Products, a New York marketing firm.

Magnavox moves

KNOXVILLE, Tenn.—The Magnavox Consumer Electronics Company has completed its move to a new \$7 million headquarters in Knoxville. For the past 50 years, Magnavox had been headquartered in Fort Wayne, Ind.

The move was made to consolidate the company's manufacturing and engineering operations with its sales, marketing and designs groups, according to Kenneth C. Meinken, Jr., Magnavox president. He says the new facility will eventually have 500 employees.

Magnavox's largest manufacturing complex is presently located in Greeneville, Tenn., while other manufacturing facilities are located in Jefferson City, Tenn. and Arden, N.C.

Pioneer launches laser optic disc

SYRACUSE, N.Y.—U.S. Pioneer Electronics Corp. recently launched its new laser optical videodisc system in the Syracuse market.

The company also plans to introduce the system in the Minneapolis/St. Paul; Dallas/Fort Worth and Madison, Wisc. markets, expanding to approximately four additional markets "every 60 to 90 days."

Suggested retail price for the system is \$749, while compatible videodiscs are designed to retail from \$5.95 to \$24.95.

U.S. Pioneer has established a subsidiary, Pioneer Artists, to develop videodisc programming with a special emphasis on stereo music, cultural and family

entertainment, says Ken Kai, executive vice-president. He notes that at present more than 160 programs are available, ranging from such full-length feature films as "Coal Miner's Daughter" and "Saturday Night Fever" to famous sports events and "how to" educational series.

Mattel Electronics delays Intellivision keyboard

HAWTHORNE, Calif.—Mattel Electronics has delayed national distribution of the keyboard component of its Intellivision Home Video System until the beginning of 1981. The item will be test marketed this fall, says the company.

Mattel states that the move is being taken to assure "adequate product availability," and to "provide time for a test market to gain experience with retailer support and service programs." This was done with the master component of the system, which was introduced late in 1979, points out the company.

Intellivision's master component and cartridges offer a variety of game play and learning experiences. After test marketing in various key cities, this segment of the system was put into national distribution in the spring of 1980.

According to Mattel, the keyboard component, with



DELUXE FOOTBALL KICKOFF—Chicago Bears All-Pro running back Walter Payton, shown with Tiger Electronics' vice-president/marketing Bill Pasco, will be featured in a fall print ad campaign for the firm's Deluxe Football game.

Exar expands wafer fab facilities

SUNNYVALE, Calif.—Exar Integrated Systems has completed expansion of its bipolar and integrated injection logic wafer fabrication facilities.

According to Dr. Alan Grebene, senior vice president, Exar's newly completed fabrication facilities provide an added capacity of 1,000 wafers per week. This additional capacity is dedicated to custom wafer fabrication to clients' specifications.

Grebene contends the new wafer fabrication facility will be a "stand-alone profit center. There is great market demand

for custom wafer fabrication that is geared to quick turnaround and responsive to customers' needs," he says. "Exar fills this market niche by serving customers that specify devices, supply the masks—and leave the rest to us."

Exar is also expanding its process capabilities into both metal- and silicone-gate CMOS areas. The CMOS production line (currently under construction at Exar's Sunnyvale facilities) is scheduled to be completed and in production by December of this year.

personalized programmed cassettes, increases the entertainment and educational opportunities of the system by providing

individual interaction with the computerized unit for personal enrichment and self-education programming in the home.

Duracell plant nears completion

CLEVELAND, Tenn.—The Battery Technology Company, a division of Duracell International, Inc., is expanding its facilities here with construction of a new 107,000 square-foot building in Northeast Industrial Park.

According to Richard J. Hogan, facilities planning manager, the new building is near completion and will provide additional space for the firm's growing battery business.

Plant manager Edward Battocchio notes the new plant will be used to house a blister packaging operation for the batteries, for general warehousing and for offices and laboratories of the Equipment Development and Facilities Planning and En-

gineering Groups.

Duracell has also established a major new operation in LaGrange, Ga. to manufacture its high-performance batteries. This new operation is housed in a 170,000 square-foot facility formerly occupied by Seamco Sporting Goods Company. Duracell is a subsidiary and Seamco a division of Dart Industries, Inc.

President and chief executive officer Peter G. Viele reports the LaGrange plant is being extensively renovated and that new and existing equipment will be installed with an initial investment of approximately \$6 million. The plant modifications and equipment installation may be completed by January 1.

VIDCOM opens September 29th

CANNES, France—The 6th VIDCOM, International Video-communications Market, will be held at the Palais des Festivals here September 29th through October 2nd.

According to show management, VIDCOM '80 will fill all five floors of the Palais with more than 250 exhibitors featuring videocassette and videodisc equipment, video related equipment, materials, services, videotext equipment and two full floors of programming.

Sony unveils single-unit video camera-cassette recorder

NEW YORK — Sony Corporation of America has unveiled a prototype of a single-unit video camera-cassette recorder which is to be provisionally called a Video Movie unit.

Although the new product is not expected to be on the commercial market until 1985, the firm says it decided to reveal the prototype of the compact unit in order to invite other technically qualified manufacturers to discuss ways to arrive at a common video cassette and video recording format.

According to Sony, the ultimate goal of video technology for consumer use is the packaging of a color video camera with a video recorder in one portable unit. Ever since Sony marketed the first tape recorder in Japan in 1950, the company has continued research and development in magnetic recording and imaging technology to arrive at a video unit that would be equivalent in compactness to an 8-mm sound movie camera.

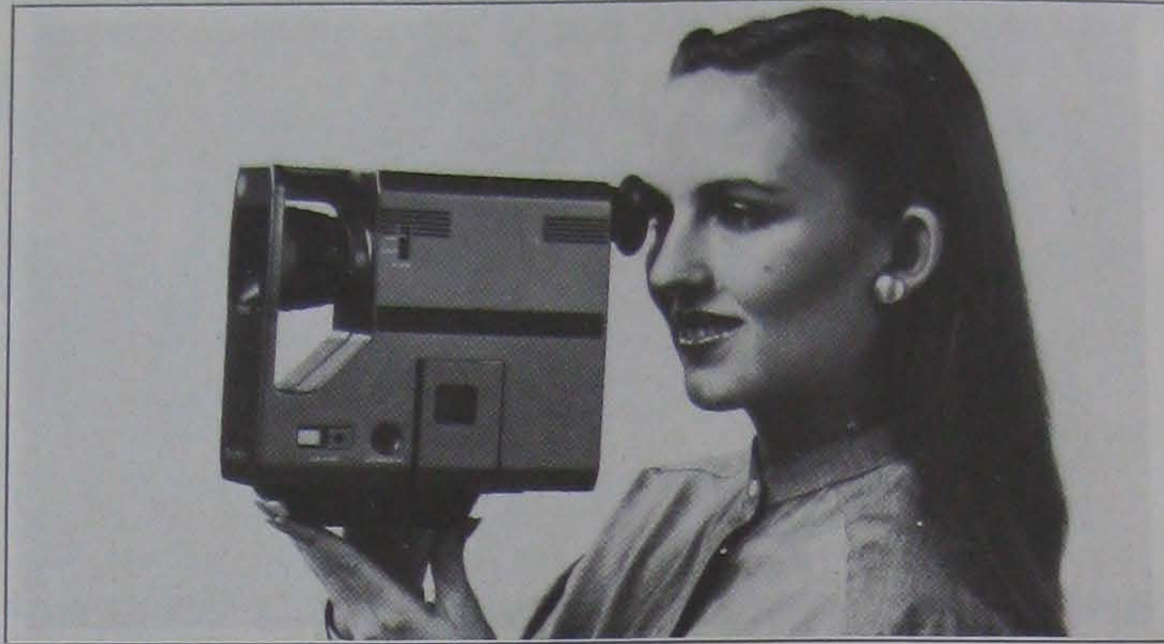
LIGHT WEIGHT UNIT

The Video Movie unit consists of a micro-size, solid state charge-coupled device (CCD) camera employing a single semiconductor chip and a "super-small" videocassette recorder. The total weight of the unit, including battery pack, is approximately 4.4 pounds.

The unit takes advantage of magnetic recording, which allows for easy recording, playback, or erasing of images and sounds. The compactness of the Video Movie makes it as easy to operate as an 8-mm movie camera, says the firm. It can be combined with a Home Editor for transferring the images and sound onto any of the videocassette formats now in use, namely the Beta format, the U-matic, and others.

The edited Video Movie recording on videocassette can be viewed on any TV set and the user can also view the Video Movie recording directly on any TV set through the Home Editor. The system, therefore, can be expected to enhance video equipment already in the hands of present customers, reports Sony.

Sony says that because it is desirable to make these types of videocassette tapes available throughout the world when the system is put to practical use in 1985 (just as 8-mm movie films have common specifications), the firm is inviting manufacturers technically qualified in video to discuss ways to arrive at a common videocassette and



video recording format.

According to Sony, considerable time will still be required to arrive at the final version of the system, and more technical development is still required in some details. However, the announcement and suggestion were made in order to achieve a major future goal in the video industry, says the firm.

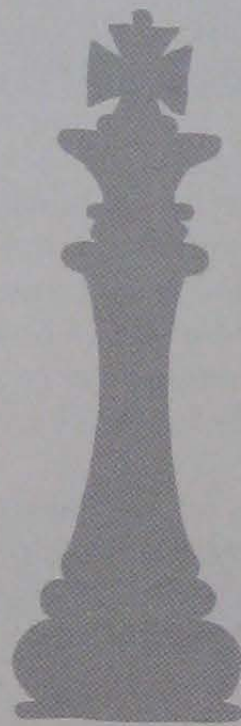
Sony's single-unit camera-cassette recorder is equivalent in compactness to an 8-mm sound movie camera.

Don't play around with second best . . .

. . . when your opponent can be

CHESS CHAMPION SUPER SYSTEM III®

the finest electronic chess game you can buy



Who says so?

Experts. World renowned chess aficionados and Grand Masters.

Chess Champion has enjoyed this pre-eminent position among European chess connoisseurs for many years because it is programmed to include more advanced chess functions than any other chess computer.



CHESS TRAVELER

FOR THE CHESS DEVOTEE

Take the Chess Traveler along with you — anywhere. This light weight, handsome, battery-operated Chess Traveler offers seven levels of play from beginner to expert, plus a unique "look-ahead" mode. The levels are changeable during the game and the computer will play against itself with you as an observer, to learn from the expert.

Available with:

- Revolutionary LCD chess board
- electronic printer
- LCD quartz clock adjustable from 1 sec. to 100 hrs.
- rechargeable power pack for ultimate portability
- memory and recall up to 10 moves.

Now, ONLY FROM TRYOM, Chess Champion Super System III is available in America for those who demand the very best.

TRYOM OFFERS A COMPLETE LINE OF INTELLIGENT, DEDICATED ELECTRONIC GAMES, COMPUTER CHESS, GOREN BRIDGE AND OMAR BACKGAMMON.

TRYOM

23500 Mercantile Rd., Beachwood, OH 44122
(216) 464-8918

Buyers' handbook gets warm welcome



Stern



Bentkover

Having attended the Consumer Electronics Show for a number of years—although never before as exhibitors—we were honored and delighted by the enthusiastic industry response to our brand-new publication *LEISURE TIME ELECTRONICS*. While our first issue was primarily involved with electronic games, this is not the only area of leisure electronics we will be covering.

With this issue, we begin a vitally needed process of further educating those buyers who recently became involved, or who are thinking of getting involved, in the video and in-home computer markets. Only in their infancies, these electronic systems are destined to have an enormous impact on our entire way of life within only a few years. These product categories are related, but they also have separate sets of merchandising problems that must be confronted by their respective buyers.

That's where we believe *LTE* can help, because *LTE* is a merchandising publication. We intend to cover these categories separately, in-depth, on an ongoing basis. We will be regularly conveying successful merchandising techniques to the entire industry, so that its members can realize the fullest potential of an enormous growth opportunity.

While we view ourselves as a retailer's handbook, we also warmly welcome comments and suggestions from other segments of the industry—manufacturers, manufacturers' representatives, distributors, OEM suppliers and inventors. All are vital resources in this important educational process, as a new marketplace takes shape and becomes more clearly defined. We are pleased that so many industry persons have already identified with our goals, and have graciously cooperated by providing thoughts, ideas and hard facts that should be of great value and interest to our readers.

We have personally gone through the extraordinary number of responses *LTE* has received to both its editorial and advertising content, and can see the extremely broad base of its retailer audience. It includes not only the traditional mass merchants, such as department stores, discount stores and variety stores, but electronic specialty shops, radio, TV and audio equipment dealers, photography dealers, computer retailers and distributors of leisure electronic products. All have indicated a desire to learn more about this growing marketplace.

As the industry grows, and the number of outlets handling its products multiplies, *LTE* intends to be a vital source of information to buyers on products, sources of supply, new technology, effective merchandising techniques and manufacturers' promotional plans. *LTE*'s proposed publishing schedule for 1981 will involve four issues: our Winter CES issue; a Spring issue; our Summer CES issue and a Fall merchandising issue. With the further growth of the industry, our publishing schedule will increase.

If you recognize the need for other executives in your organization to receive this publication, and be exposed to the valuable information and ideas that appear in it, please fill out the subscription form contained in this issue. Send us the names, titles and duties of all persons who you believe can benefit from reading *LTE* regularly. If you are a manufacturer, send us the names of buyers who you think should be reading *LTE*, and we will see that they also receive the publication.

Thank you for letting us become a part of the electronics industry. We value our relationship with you, and hope we can continue to play a constructive part in that relationship.—Harvey Stern and Stephen Bentkover, Co-Publishers

Education spurs video, computer sales



Schulman



Citelli

Emerging video and personal computer products are opening up new dimensions in home entertainment and personal lifestyles. They offer retailers an immense opportunity to gain ongoing sales of both hardware and software. But sales and profits will come primarily to those who best understand these developing markets, and their special merchandising challenges.

A number of merchants already see a direct link between electronic games and personal computers. As a result, they are using handheld and video games as lead-ins to stimulate consumer interest in more sophisticated computers. They and other computer retailers confirm that in-store demonstration is vital, because it provides hands-on involvement that becomes an educational, as well as a sales, tool.

Built around technologies that remain in constant change, the new video and computer products require constant educational efforts in order to make them more understandable and saleable on a mass scale. All down the line—from manufacturer, to distributor, to retailer, to consumer—accurate, up-to-date information is needed to keep these markets growing intelligently and properly.

The alert retailer must stay aware of the different types of computers presently being marketed. He also must keep track of how much, and what kind of software is available for each system, because the ultimate attractiveness of computer systems will depend on what consumers can do with them.

The availability of a wide selection of software also holds a major key to future growth of the VCR and videodisc markets. With the entry of all the major film studios into the market, more video software is appearing now than ever before. Packaging of these products has improved, advertising is increasing and more in-store promotional materials are being made available for retailer use.

Communications seem good, and a solid foundation is being laid for a formidable future business.

The two incompatible VCR formats now in use each have their adherents, because each offers different competitive features. But, as in the personal computer area, the retailer must know his customers' preferences in order to know which hardware and software to stock.

In the videodisc category, which is expected to provide significant business within five years, a major marketing battle is shaping up between three groups of firms offering different incompatible systems. Here, promotional expertise rather than technological superiority may be more important in establishing dominance. Consequently, retailers will be called upon to evaluate manufacturers' promotional programs, to determine which system or systems they will support. Will the planned advertising effectively establish competitive differences for that system, and will it whet consumers' appetites to buy that system?

The most important similarity between in-home computers and video machines is that they cater to distinctly personal needs. VCRs and videodisc systems allow consumers to individually determine their home entertainment fare. In-home computers allow them to select programs that fill particular needs. As a retailer of these products, then, you are involved in the personal entertainment and education business. You must know what your consumers want and should be able to offer a variety of product, because personal tastes vary so widely.

With today's specialty stores pioneering methods of selling these new products, a revolution in merchandising is taking place that is almost as revolutionary as the products that spawned it.

Milton Schulman, Editor and Bob Citelli, Associate Editor

EVERY YEAR THERE'S A NEW '1'
YOU CAN'T AFFORD TO MISS IT!

*1977 MATTEL ELECTRONICS® FOOTBALL

*1978 MILTON BRADLEY SIMON™

*1979 CASTLE EINSTEIN™

1980 CASTLE name that tune™



ELECTRONIC

name that tune™



Castle Toy Company (401) 849-7750

*Source—TOY & HOBBY WORLD's Toy Hit Parade

Circle No. 5 on product card

RCA to boost SelectaVision line with \$10m ad campaign

NEW YORK—RCA Corporation reportedly plans to spend more than \$10 million next year to advertise hardware and software for its new SelectaVision video-disc line.

A coordinated advertising

campaign for both the hardware and software is scheduled to launch the line in spring, 1981. This will be followed by separate advertising for hardware and software.

"High-visibility TV and print"

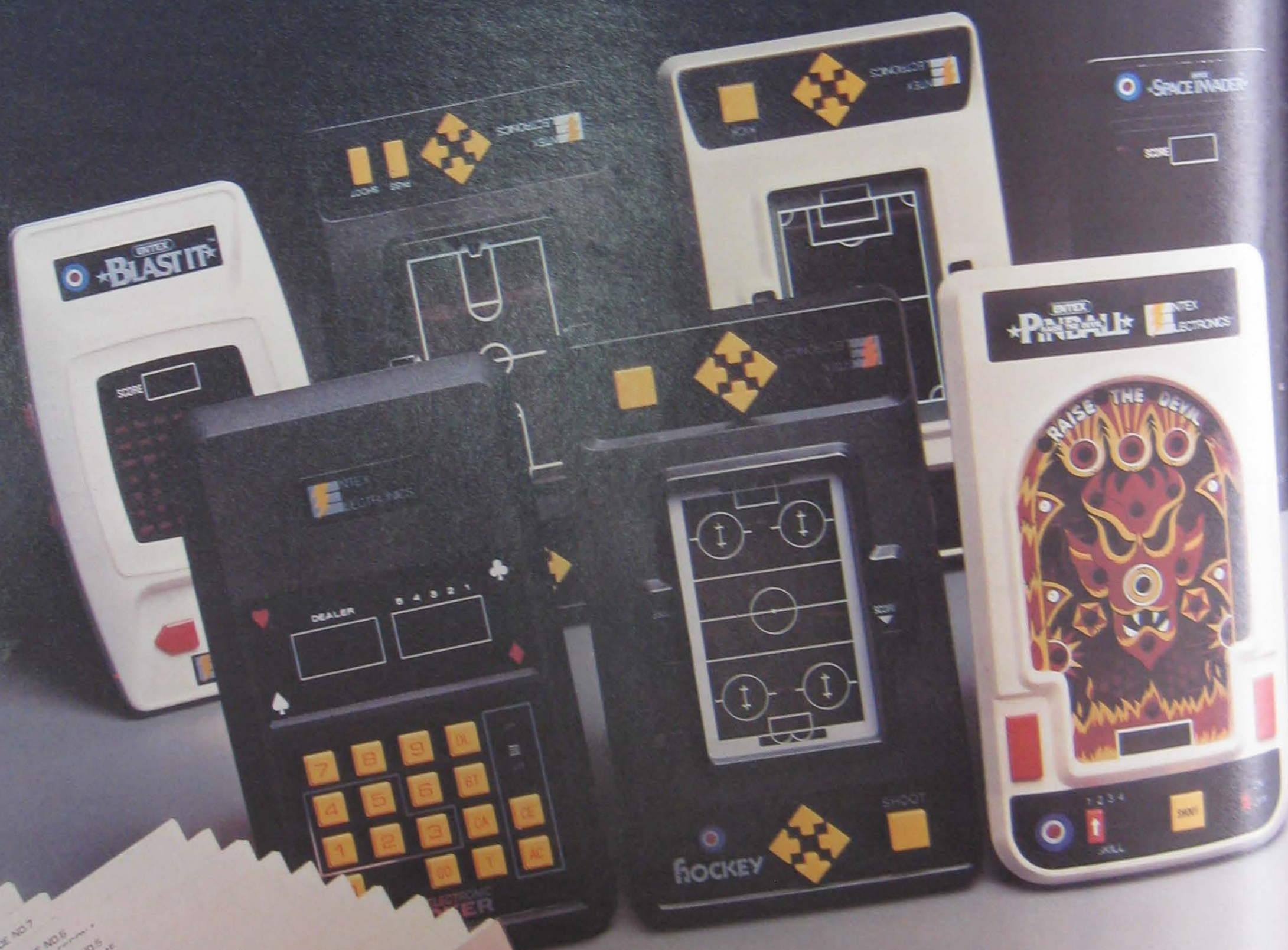
will be used as "primary media" in the program, according to David Heneberry, staff vice-president/director of marketing for SelectaVision.

RCA says it expects to have sold 200,000 SelectaVision sets

and 2 million disc programs by late 1981, with about 200,000 more units sold to consumers by Zenith Radio Corp. and such other licensees as Sanyo and Toshiba.

Sears, Roebuck & Company

THE ELECTRONIC GAME WHEN THE CHIP



All electronic games have chips in them. But that's where the similarity ends. Because some electronic games don't play very well, and some don't have strong promotion, and some are so unknown they just sit on the shelves, and some can't be delivered when you need them. But when all the chips are down, there's one company you can depend on for electronic games. Entex.

Our quality is known throughout the industry. Even when we have a game that's a big seller we continue to upgrade and improve it, using "smarter" chips and giving it more functions.

recently announced it will carry SelectaVision in its Christmas, 1981 catalog, and also will sell a wide assortment of software.

EXTENSIVE CATALOG

SelectaVision's introductory catalog is expected to list 150 titles out of some 400 committed in recent months, in contracts

between the firm and various entertainment companies. United Artists has licensed 100 films for SelectaVision and Paramount 81. MGM and CBS have also signed up for a substantial number of titles, which will be promoted separately as part of a joint marketing venture between those companies.

Titles due on SelectaVision discs some time next year are said to include such movies as Paramount's "Saturday Night Fever," "Grease" and "Godfather I and II," plus United Artists' "Rocky" and "Semi-Tough." All are presently available in videocassette format.

Heneberry, who previously

headed RCA Music Service's record/tape club, says a similar disc club will be established when there are enough owners of the system. The RCA record club has its own advertising budget estimated at more than \$5 million.

Use LTE's Reader Service Card

AS YOU CAN COUNT ON S ARE DOWN.



Our electronic games are heavily promoted with award-winning commercials that are real "stoppers."

At the end of last year, many electronic games were still on the shelves of retail stores. Entex Electronic Games sold out.

This year, we have 15 games in our line. We brought out more new electronic games than any other company. We have the most sports games. The most two-player games. The most full-field games.

Entex Electronic Games are the ones you can depend on.

And you can bet your chips on that.

©1980 Entex Industries, Inc., 303 W. Artesia, Compton, CA 90220.
Phone: (213) 537-8740.

Circle No. 4 on product card



VCR sales advance 59 percent in first six months of 1980

Continued from Page 1

used in color and with sound, for later viewing; record the program being watched; record one program while another is viewed; or record automatically as a timer activates the machine.

Adding to consumer choices are instant home movies made with a camera accessory, and a broad selection of pre-recorded cassettes. Programs available include recent and classic movies, cartoons, selections from earlier television broadcasts, musical and stage performances, and X-rated films.

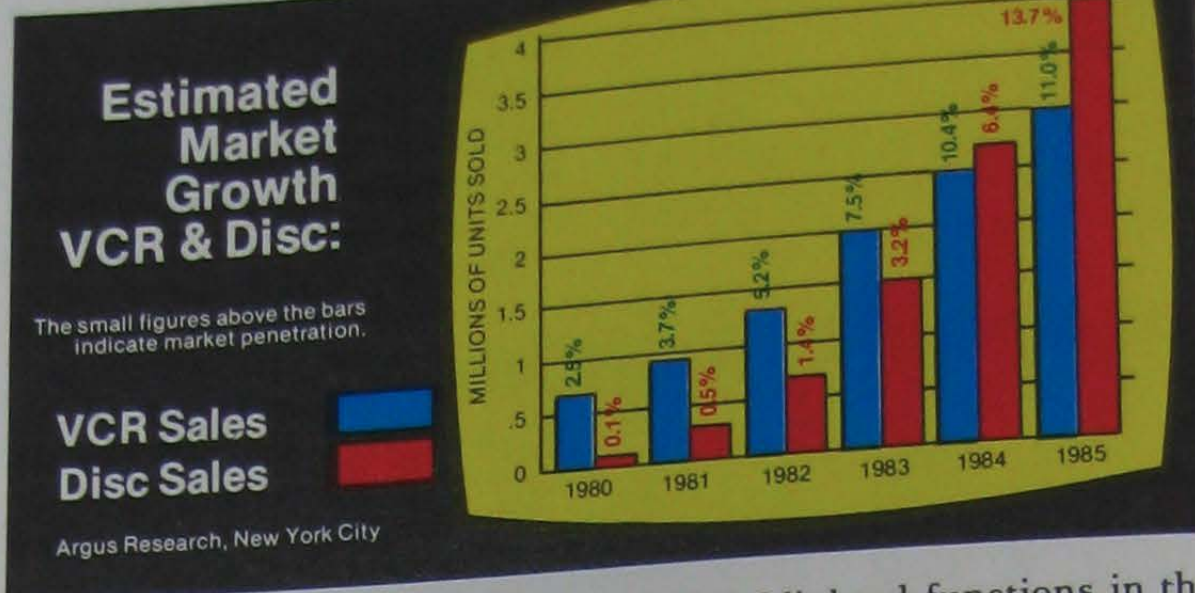
Both blank tape and pre-recorded cassettes are sold in the two incompatible formats now on the market, Beta and VHS, because machines of one type cannot play cassettes designed for the other.

The Beta format, developed by Sony and used in its Betamax, also is employed in models from Aiwa, Fisher, Sanyo, Sears, Toshiba, and Zenith. The VHS (Video Home System), originated by JVC, was adopted by Matsushita for its Panasonic and Quasar brands and by Akai, Hitachi, GTE Sylvania, Magnavox, Mitsubishi, RCA and Sharp.

ANNOUNCE SEVERAL FORMATS

Despite industry pronouncements that only one format can survive in the consumer marketplace, several others have also been announced. Toshiba has shown three versions of its endless-loop, fixed head LVR (longitudinal video recorder), which eliminates nearly two-thirds of the parts used in other video recorders. First introduction will be to commercial markets, with samples coming possibly as early as the end of this year, and a consumer version is to follow, depending upon demand. Additional incompatible systems that may be introduced as consumer products are from Funai and BASF, although the BASF LVR is not presently planned for production.

In a proposal for a common, worldwide format, Sony this



summer unveiled a one-piece color videocamera and cassette recorder that can be used with its companion Home Editor for playback and editing with any VCR format, Beta, VHS, or U-Matic, which is Sony's system used in commercial and educational applications. Called Video Movie, the lightweight (4.4 pounds) system combines a one-chip CCD camera, super-small VTR, and micro-cassette with metal tape.

EXPAND HOME USE

"This development will expand the use of the home VTR," explains Sony's Chairman Akio Morita, emphasizing that "it is an addition to the Betamax or other VTR, not a substitute and is more competitive with the 8mm home movie market." Production is not scheduled until 1985, but the announcement was made early to allow time for reaching a "universal standard," he explains.

Although the Beta format was the first introduced for home use, the VHS system now is dominant in sales and is showing a steadily increasing advantage. VHS claimed more than 67 percent of the market in the January-March period this year, up 10 percent from the previous year, according to a survey by Media Statistics, Silver Springs, Md. The Beta market share dropped to just over 32 percent this year from almost 43 percent in 1979's first quarter.

Among the various brands in each format there are differences in features and in cosmetics. Scanning and special effects are

the highlighted functions in this year's models. Betascan, which provides fast access to any portion of a tape, operates at 20 times the normal speed on Sony machines, while Toshiba offers Superscan at 40 times normal speed. Quasar has introduced two models with high speed picture search, and General Electric's Video Scan, available on one model, is 10 times normal, forward or reverse. RCA also offers 10-times speed.

Earlier competition between brands involved extending playback time from the original one hour, and now many models can record or play for up to six hours. Some offer a choice of 2/4/6-hour recording on the same units.

OTHER DIFFERENCES

Programmability is another area of difference. Usually added to higher-priced models, this feature permits the setting or programming of the machine to record several programs automatically over a period of as long as a week, allowing the owner to record shows while he is away or asleep. Some models provide for unattended recording of up to five programs on different channels at different times over a seven-day period.

The first VCR with stereo capability was introduced by Akai at the June Consumer Electronics Show. The two soundtracks of the unit can be used for bilingual recordings, which can be switched from one to the other during playback.

Other competitive features on various models in both formats include remote control, either partial or for all functions, quick scan at three times normal speed or slow scan at half the usual forward speed, frame-by-frame advance, audio dubbing, electronic tuning and touch controls.

The cameras and portable systems, to be covered in more detail in a future issue, compete in the area of light weight so that they become more truly portable, and on special features of the cameras. Toshiba is bringing out the first automatic focusing

video camera, which adjusts itself for picture sharpness when shooting a moving object. The same model also has a low light lens, requiring only 50 Lux, compared with the 100 to 300 Lux usually needed for video recording.

Sony is using 2/3-inch Trinitron picture tubes for color fidelity and sharpness in two new color video cameras, and JVC notes that its most recent lightweight model also is compact, with the biggest dimension less than one foot.

Featured on some video cameras are zoom and macro lenses, some motor-driven; electronic viewfinders; remote control capability; low power consumption for longer periods of use; and three-way power supply that can be used with rechargeable batteries, an AC adapter, or car battery cord.

In addition to the basic hardware and cameras, blank tape and video accessories are an



essential part of merchandising this revolutionary product category. Ken Kohda, vice-president and general manager of TDK, a major tape manufacturer, estimates the size of this year's blank tape market at 15 million units, two-thirds VHS and one-third Beta. He anticipates growth to 65 million blank cassettes annually by the mid-1980s, with the total splitting among VHS at 40 million, Beta at 20 million, and other format(s) at 5 million.

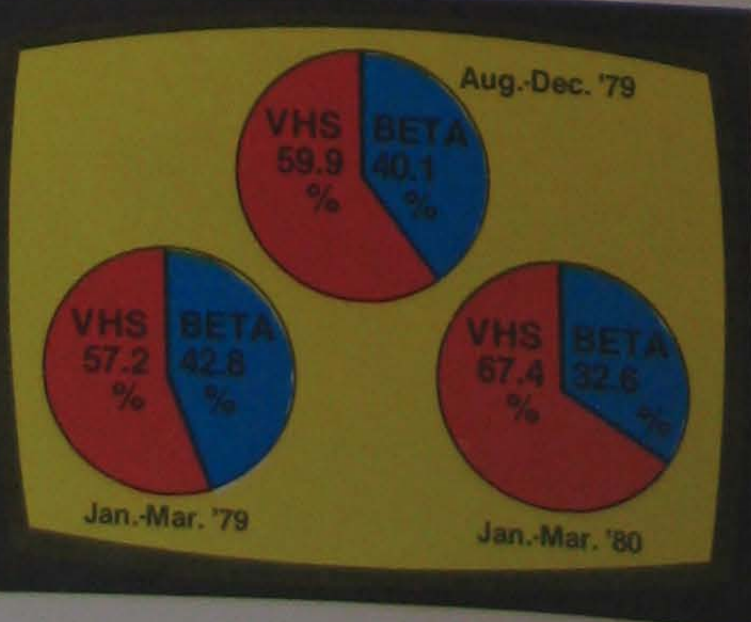
The list of accessories continues to grow as firms develop new ways to add convenience or enjoyment to video recording. Among available extras are power adapters, battery chargers, cassette storage and filing systems, energy-saving lights for indoor camera use, and connector cables.

JVC is introducing two new system components designed to add to the flexibility of its new portable Vidstar VCR. A tuner/

Continued on Page 12

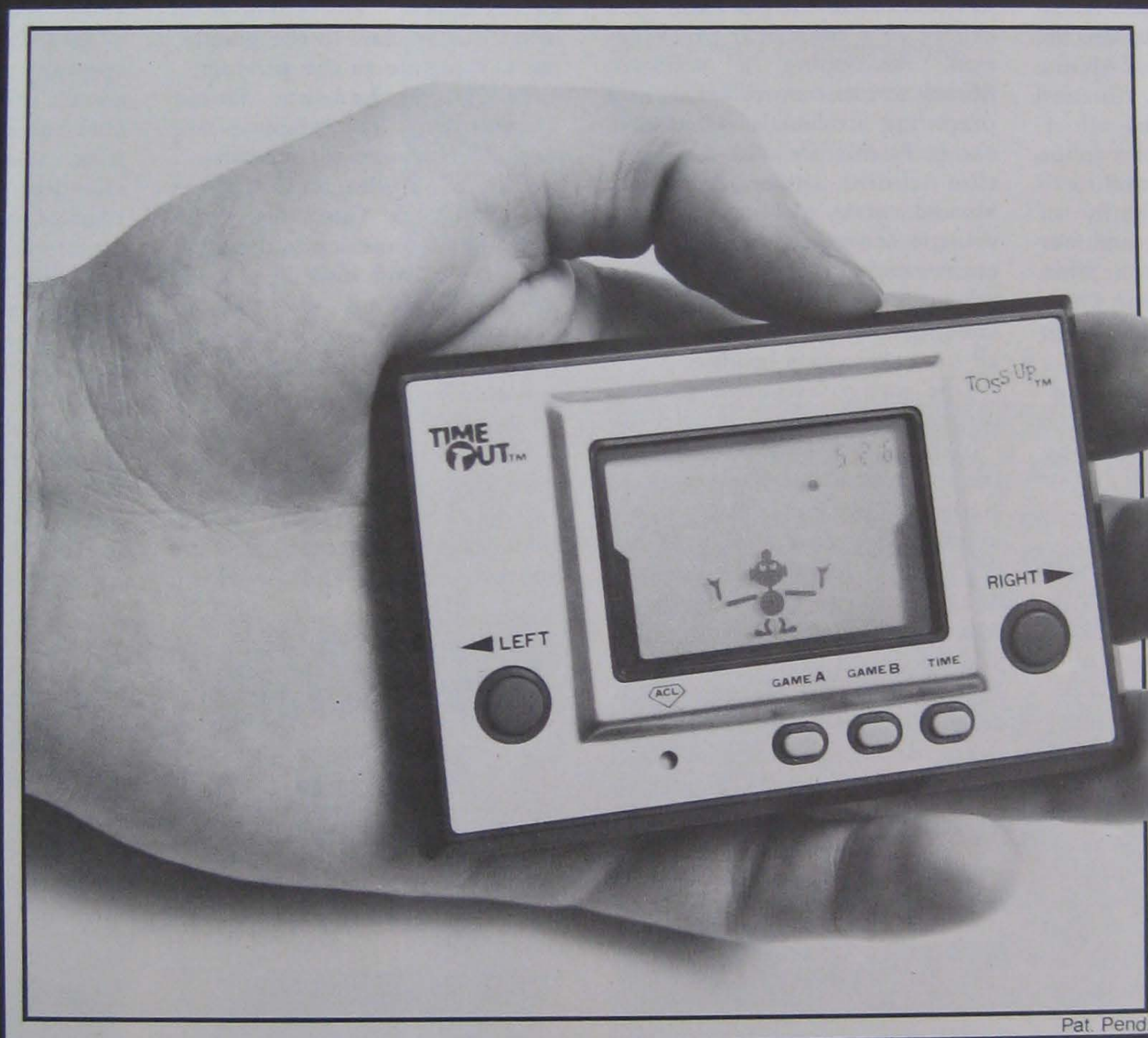
Videocassette Recorder Market Shares by Format:

Media Statistics, Silver Springs, MD
(Media Statistics polls 10,000 households monthly as part of its Mediatrend radio audience polls reports.)





PALM HELD ELECTRONIC GAMES WITH A BUILT IN QUARTZ CLOCK



Pat. Pend.



THE MAJOR BREAKTHROUGH IN ELECTRONIC GAME TECHNOLOGY.

VCR sales advance significantly in first half of year

Continued from Page 10

adapter combines the functions of a TV tuner/timer with those of a power adapter and a battery charger, converting AC power to DC and recharging the battery pack in only 90 minutes. It has a 12-channel pre-tunable electronic tuner for off-air TV recording and a 10-day preset to record programs unattended. A power-adapter/battery charger converts household power to DC and can charge two battery packs in one session.

Akai now offers a Tele-Cine adaptor, a simple device for transferring film and slides to videocassettes. The video transfer device, retailing at \$89.95, allows for editing of home movies or interspersing film and slides for a multi-media effect. Narration or music also can be added to the finished product.

Selling this new family of video products to the consumer of the 80s is quite different from selling and merchandising familiar products, although the two factors most mentioned by successful dealers—adequate inventory and knowledgeable sales staff—are not new retailing techniques.

NEED NEW THINKING

"Consumers of the 80s will have to be treated individually in order to make the sale, and that means new thinking, new techniques—a change from mass merchandising to people merchandising," maintains Lud Huck, marketing manager for General Electric television. He believes there must be "a change from aisles to boutiques; from clerks to salesmen to counselors; a change from standardized to individualized products; from fixed hardware to

the versatility of software."

Retailing as theater is the concept being promoted by Advent, which now sells projection TV but plans to add videocassette and probably disc under its label. "When people walk into your store, you want them to say 'WOW'. If somebody comes in and asks 'where's the raw tape?' you're doing something wrong," advises Bernie Mitchell, Advent president.

SUPPLIES LITERATURE

The Advent promotional program includes staging events for customers to experience the drama of a theatrical presentation, developing a software library to meet every taste, and preparing a dramatic 10-minute show. To this are added saturation radio announcements, backed up by print, a trained salesperson who can sell an entire system or a single component as a starter, and an adequate supply of literature on all the company's products.

One way to establish a video center within a store is with the "instant video department" from United Video Buyers Association, Fairfield, N.J. "It's much more than a display—it's a department for showcasing and demonstrating video cassette recorders, disks, cameras, tapes and accessories," says Max Meyerson, executive vice-president.

The department consists of a four-section module, made of wood and walnut veneer, which can be expanded. Measuring 16 feet long and 2½ feet high, the module can be assembled in less

than an hour, Myerson states. Only one AC outlet is required for the flush-mounted lighting system and outlets for demonstrating equipment. There are two cabinet drawers for storage and glass frontage displays for tapes and other equipment.

For selling cassettes, Home Theater Visual Concepts, Hollywood, Calif., produces a free-standing Video Vender that requires only three square feet of floor space. Showing trailers continuously with a 19-inch TV and player at eye level, the unit holds literature and displays 200 tapes and cassettes behind locked doors. "The intent is to bring the product to the people, not the people to the product," says Alfred Landau, Home Theater/VCI. The displays are available through distributors.

Harvey's Audio, on 45th Street in New York City, has been drawing customers into the store with a working unit in a large window fronting the street. Passersby see their own picture being taken by the camera and instantly played on the TV screen.

"Now Playing" is the marquee sign surrounded by flashing lights at the Jordan Marsh videocassette theatre in the Boston store. The working

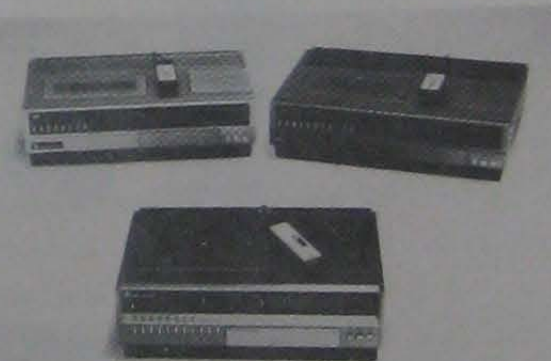
camera and TV screen, in this case near an escalator, again attracts shoppers, who step inside the theatre to see movie seats in front of a Panasonic projection TV set. The section is set up as a separate entertainment and education section and also showcases a disc model, Magnavox Odyssey II games and Mattel Intellivision.

CUSTOMERS LEARN

In Southern California, the Video Store looks like a living room instead of a shop for hardware, and customers sit on comfortable sofas as they learn about new video possibilities.

At Columbia in Chicago, a specialty video store, success comes from having knowledgeable salespeople on hand and a wide selection of video merchandise. Customers pass a bank of television sets and go to a screening area to compare equipment and try out cameras.

Merchandising VCR's, and their accessories and software, admittedly requires care and creativity. The promise for retailers who learn to sell and display these items properly, is that they'll be getting a share of a business predicted to be as big in the 80s as the automobile industry was at its peak. —K.L.



Quasar Video Tape Recorders—Circle No. 203 on product card.



Akai ActiVideo—Circle No. 206 on product card.



JVC Vidstar VHS—Circle No. 202 on product card.



General Electric VHS VCR—Circle No. 204 on product card.



Toshiba LVR—Circle No. 205 on product card.



Portable VCR from Magnavox—Circle No. 199 on product card.



Sony Betamax—Circle No. 198 on product card.



Sanyo VCR 5050—Circle No. 201 on product card.



RCA SelectaVision—Circle No. 200 on product card.

Say consumers prefer cassettes

WELLESLEY, Mass.—Consumers who do not yet own video playback equipment prefer VCRs to videodisc systems by a ratio of more than three to one, according to a new survey.

The survey was part of a study made by Venture Development Corp. Among its other findings were that 20 percent of potential buyers indicate an interest in both VCR and videodisc systems. Twenty-three percent expressed a preference for one system or the other, but not for both.

Some 60 percent of VCR owners said they would not want to purchase a disc system; 28.9 percent showed interest in both formats and 8 percent favored one system over another.

Analyzing the study, Venture says it means manufacturers must target their products toward persons wanting only one kind of system, or toward those wanting both. The study found that VCR owners have a greater interest in owning both video systems than do persons not currently owning VCRs.

THIS TENNIS PLAYER CAN SERVE, HIT DEEP, PLAY THE NET AND MOVE ALL OVER THE COURT.



It's sort of unfair to compare our Tomytronic™ Tennis player to a real tennis player. After all, a real tennis player will get tired after a couple of hours of playing, while our Tomytronic™ Tennis player will keep going. Otherwise, they're very comparable. A real tennis player can serve and move from side to side in the backcourt or at the net. So can a Tomytronic™ Tennis player. The action of our new electronic game is so realistic it's almost uncanny. Not to mention being a lot of fun. This is just one example of Tomy's outstanding line

THIS TENNIS PLAYER CAN SERVE, HIT DEEP, PLAY THE NET AND MOVE ALL OVER THE COURT.



of electronic games, all sold under the name "Tomytronic." There's Break Up, Cosmic Combat, Basketball and Tennis. There's also a new racing game that's really five games in one, and it's only $\frac{3}{8}$ " thick. So if you want to know how good the Tomy electronic game line is, just take a good long look at Tomytronic™ Tennis. A Tomytronic™ Tennis player can do almost anything a real tennis player can do. Except jump over the net. ©1980 Tomy Corp., 901 E. 233rd St., Carson, CA 90745.

Circle No. 39 on product card



Videodisc manufacturers prepare marketing battleplans

A marketing battle is shaping up for next year as three groups of major firms go into national distribution with three incompatible versions of the videodisc—an item expected to be the biggest consumer product since color television.

There are predictions that as many as 4 million videodisc units will be sold annually by 1985 and 9 million by the end of the decade. That kind of unit volume, at a price of \$500 per unit, translates into annual sales of \$2 to \$5 billion for hardware alone.

Add to that the discs themselves, priced at probably \$10 to \$30 each, and the total category volume is considerably more.

NATIONAL INTRODUCTION

RCA plans to introduce its CED (capitance electronic disc) system nationally in January, and Zenith and Sanyo will bring out their versions of the RCA system later in the year. Magnavox and U.S. Pioneer already are selling the Philips optical/laser system in selected cities, scheduling broader distribution next year. General Electric, Matsushita Electric of Japan (with Quasar and Panasonic brands in the U.S.), Victor Co. of Japan, and THORN EMI of England are proposing jointly owned ventures to introduce the JVC VHD (video high density) system to the U.S. market before Christmas next year.

Like a phonograph record, the videodisc is a playback-only device—the user cannot make

his own recordings. The videodisc reproduces video and audio images through a television set just as the phonograph record reproduces audio with a turntable and speaker system. Unlike the universal audio platter, that can be used on any turntable, the videodisc can be played only on the system for which it was designed.

This incompatibility of products that perform the same basic function points to marketing clout and software as the key factors in the intense competitive battle. Right now, each of the proponents maintains that its system will prevail, and each represents powerful manufacturers experienced in the consumer electronics business.

"We'll win this poker game," states Roy H. Pollack, RCA executive vice-president, adding that "RCA is confident it has developed the most cost-effective system for a videodisc market. SelectaVision is the most extensive consumer engineering and product development program in RCA's history, exceeding even the effort expended to bring color television to market a quarter century ago."

Speaking about the Philips system, Ken Kai, executive vice president of U.S. Pioneer, maintains that "We are confident that the laser/optical player and its superior technology will ultimately emerge as the primary videodisc system for the American consumer. In our demonstrations to consumers

last year, they told us they wanted the best technology and not just a low-priced player."

From the VHD camp, Ludwig A. Huck, marketing manager for General Electric television, states "The VHD hardware system combines the best of both of the currently announced competitive disc systems—the advantages of the optical system without the higher costs, the potential economies of the grooved capacitance system without the feature disadvantage. Our perspective is that the planned videodisc ventures are the ones which meet all the requirements for success."

DIFFERENCE IN POSITIONING

One difference in marketing philosophy already is apparent. The RCA and GE/Matsushita/JVC/EMI group position the disc player as a comparatively inexpensive mass market product, while Magnavox sees it, at least currently, as an item for the upscale buyer. Suggested

retail prices now quoted are \$500 or under for the RCA system, \$795 for MagnaVision, and \$749 for the Pioneer model. The GE product is expected to sell somewhere in between.

"The videodisc buyer is not the average color television buyer, he is the same customer who will spend the extra dollars for wire, wheels on his car," maintains Ken Ingram, senior vice president/marketing for Magnavox, which introduced MagnaVision last December in selected cities. "The disc customer wants to be entertained at home—but on his own terms. He wants state-of-the-art and quality entertainment, and he's willing and able to pay the price."

Many types of entertainment and educational/informational discs are being prepared. The extent of the software issued, and the timing of their availability, should play important parts in shaping the direction of the videodisc market.



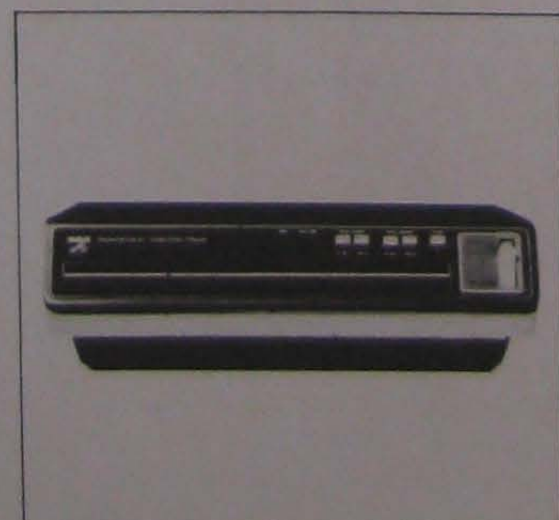
Magnavox' Magnavision—Circle No. 207 on product card.



General Electric VHD System—Circle No. 210 on product card.



Pioneer LaserDisc—Circle No. 208 on product card.



RCA SelectaVision Videodisc Player—Circle No. 209.

FIRE! INTERCEPT!

THE POPULAR ARCADE GAME, NOW SIZED TO FIT IN YOUR HAND

8020 INVADER FROM SPACE

- ★ Firing Button and Intercept Control
- ★ Electronic Battle Sound Effects
- ★ Automatic Digital Scoring
- ★ Three Playing Speeds
- ★ Large Clear Display That Shows All The Action

Copyright © 1980. All Rights Reserved. Made in Japan.

EPOCH CORPORATION 37 Smith Street, Englewood, NJ 07631 Tel. (201) 894-9000

Variety of video software proves aid to retail sales

Continued from Page 1

business. In the past we had only chocolate and vanilla to sell; now we have 31 flavors and that's a lot better."

As each studio enters the market, "each has to play a higher card than the one before," adds Moffet. "As a result, we are getting progressively more attractive and more important movies in videocassette form. Consumers have more to select from, and therefore they will spend more."

Previously "adult" films represented a heavy proportion of videocassette sales, because they were more generally available. However, a number of blockbuster movies are now being marketed in tape form, along with a broad selection of classic films. As a result, the percentage of adult film sales has fallen to less than 40 percent of the market, even though the total number of such titles sold remains about the same.

ADVANCE RELEASE DATES

Recognizing that the still-infant home video market represents a major source of future revenue, movie studios are increasingly advancing the release dates of their latest movies for videotape. "I think in the next five or six months we'll see videocassettes released at the same time the movie is released," says Roy Douglas, president of BCR Video Distributors, Brookpark, Ohio. "The studios want to get the product to the market faster, and this makes sense, because the latest titles are the ones that sell best."

This observation is confirmed by Perry Kopf, manager of Video Cassettes Unlimited, a video specialty store in Larkspur, Calif. "I carry anything that's newly released," he states. Kopf's store stocks about 300 titles at a time, displaying them all on shelves behind the counter, with the jackets facing out. "Packaging helps sell the movie," Kopf declares.

However, Kopf feels consumers are confused about why certain titles are released while others are not. "We find 75 percent of our sales are made on impulse, because consumers just don't know what's available. So they come into a store like mine to find out. Consumers are eager for the new titles. Very few are members of video clubs—they'd rather get their cassette locally, and they'd rather get it now, rather than mail away for it."

Kopf, who advertises in local newspapers, estimates that 50-



Videocassette display at The Video Shack, New York City.

60 percent of his regular customers first came into his store to examine available software before buying a tape recorder. And while they may have originally thought of using the VCR primarily to record from the television set, "they now seem to be thinking of it more as a primary source of home entertainment."

About 95 percent of the tapes carried in Kopf's store are in the VHS format, because that seems to be the dominant system owned by consumers in his area. Kopf and his partner choose which titles to stock, receiving up-to-date information from their distributor. "If it's a dog movie, I won't stock it," he says. "People who want it can always order it. I find that I can carry on my business without stocking several thousand dollars worth of inventory that doesn't move."

LIKE PERSONAL APPROACH

With only about two percent of the U.S. population presently owning VCRs, there are still relatively few video specialty stores. "We feel VCR users really like this kind of personal and emotional thing," says Kopf, "because movies are emotional. They prefer coming to a place like mine, where they can browse and take their time."

While the purchase of a videocassette tape is somewhat impulsive, it also involves a certain amount of care, contends BCR's Roy Douglas. "People know the product will cost them \$30 to \$60, and feel they must make a more intelligent buying decision. This is good, incidentally, for the retailer because it makes people visit the store several times, raising the odds that they'll make some kind of purchase. They may buy a head cleaner, blank tape, a \$4 cord or a strap for their camera, if it's a camera

store. Software brings people into the store again and again."

Douglas finds that not only has the quality of videotape titles improved, but that the studios are investing more for packaging, promotional materials and advertising.

MORE P-O-P AVAILABLE

"There are more posters available, more pamphlets, more counter displays," he says. "Also, everybody's come up with a bona fide co-op advertising program. Even the adult tape producers have developed a lot more posters and nicer catalogs—things that are geared toward the consumer. In the past, you would get just a dealer catalog and that was it."

Promotional materials are especially important because many consumers do look at software before investing \$1,000 for a video tape player, notes Douglas. "It's important that the consumer knows what's available."

BCR's retail accounts include video chains, electronics stores, record stores, camera stores and major mass merchants. Some carry only software, or a minimal amount of hardware. Others added hardware after initially stocking software.

Douglas contends that retailers can enter the software business by carrying 20 or 30 of the top titles, and special ordering others that are requested. "We also have an exchange pro-



VCR is hooked up to a TV at TEAM Electronics, Duluth.

gram," he says. "Twice a year we will exchange any of our dealers' slow-moving titles for newer, more current titles. This ensures that he isn't stuck with any dogs."

Dealers make markups running from 28-39 percent on software, reports Douglas. These are a little low when compared with the margins on some other accessories, he admits, but are higher than those for hardware. "But it's a matter of doing volume and supplementing your

other lines—it's part of a complete package that brings consumers into your store."

To help its retail accounts inform consumers about current titles, BCR supplies free, one-page customer catalogs that list 175 of the top movie titles in stock. These sheets can be taken home and studied.

Pamphlets now offered by most of the studios also are important in whetting consumers' appetite, adds Douglas. These carry synopses of the movies being marketed.

Some retailers realize the vast potential of the home video market, but remain cautious in their current software commitment.

SHOW BUSINESS DECOR

With VCR "you're on the ground floor of a business that will continually expand," states the electronics buyer for a major midwest department store chain. "Eventually, you want to become the headquarters for this new thing—you want to sell the machine and have consumers keep coming back to buy the software."

This chain presently displays five different VCR machines on its floor, with a television camera hooked up to take pictures of passersby. This procedure has added a great deal of excitement to the department, says the buyer.

The chain is moving carefully with software, however, carrying a minimal number of titles. A rack jobber services the stores with visits every two weeks, and takes special orders by telephone.

In contrast, the Video Shack specialty store in New York City, with a prime location at 49th Street and Broadway, boasts a stock of more than 1,100 titles. Videocassettes are displayed in glassed, secured cases, with backup stock housed in drawers.

AN EXPANDING BUSINESS

The 3,000 square-foot store makes it clear that it is involved in show business. Blinking marquee lights flash in its five display windows, and posters, photos and various movie-related materials add to the decor. Recently the store drew a huge, interested crowd when it showcased "Bruce," the shark from "Jaws," who was on loan from MCA-Universal.

Video Shack is a constant advertiser, according to Arthur Morowitz, its president. Store ads may appear in more than 15 different periodicals in a particular week. These could include the *New York Times*, *Women's*

Wear Daily, Cue, New York magazine, the *New York Post*, *Wall Street Journal* and regional editions of *Time*, *Home Video* and a number of trade periodicals.

The firm originally ran institutional ads but now is incorporating names of some of the more popular available movie

titles into its advertising.

In California, The Video Station has helped its 160 "affiliates" go into business by stocking an initial 200 titles and building up to 500 or 600. "We opened our original Santa Monica store with only 20 titles, but at that time there was only one studio in the ballgame," recalls

Robert Moffet.

The first Video Station store, 500 square feet in size, opened in December, 1977, and according to Moffet realized a net profit of \$97,000 by the end of the year. As a result, the firm began setting up a network of affiliates that now covers the entire country. Moffet thinks it

could eventually grow to 500 or 1,000 stores, and reports interest in the concept from overseas.

For their initial investment, Video Station affiliates are put into the business with an inventory of software and hardware, are given a two-day training course, and then can volun-

Continued on Page 18

Advanced Circus Home Pinball. Big excitement for families. Big profits for you.



NEW FROM BRUNSWICK! The great American circus is now right at home with Brunswick's® advanced Circus Home Pinball game. Featuring the next generation of solid state electronics, super graphics playfield and back glass, a multitude of flashing lights and 19 circus tunes and tones. Five ball game for up to 4 players. Six-digit memory recalls each player's position and keeps highest score recorded. Double and triple bonuses — Free ball awards.

IT'S THE CIRCUS THAT BRINGS YOU BIG PROFITS! Brunswick is the only manufacturer of professional, ARCADE QUALITY home pinball. Solid, durable and with all the "asked for" exciting features. PLUS, full Brunswick support — warranty program, national service network, traffic building ads and point of sale promotions. Choice of Circus Wagon Red or Wood Grain cabinets. Get in on the big profits with Brunswick Home Pinball games — NEW Circus and Alive!

BRUNSWICK
Since 1845

Find out how you can make big profits with Brunswick home pinball!

Brunswick Corporation
Consumer Division
One Brunswick Plaza
Skokie, IL 60077

Please rush me further information on Brunswick® home pinball

Name _____ Title _____
Company _____
Address _____ State _____ Zip _____
Phone # _____

PHONE YOUR ORDERS IN
ON THE BRUNSWICK
HOTLINE
800/336-8764
EXCEPT FOR VIRGINIA
(CALL COLLECT 703/783-3129)
IN CANADA
CALL 416/277-9561

LTE880

Video software retailers anticipate expanding business

Continued from Page 17

tarily reorder from a central warehouse. The warehouse maintains an inventory worth \$1 million, says Moffet. "Our affiliates order from us because of our enormous availability, plus our low prices."

Video Station stores range in size from 400 to 1,000 square feet. "In the entire network, I don't think we've had anyone doing less than \$60,000 in their first year, while some owners are meeting \$200,000," Moffet says. "In fact, a majority of our people have opened up second, or even third and fourth stores."

The stores sell and rent software and hardware, and also offer such special services as transferring home movies to videocassettes, complete with a musical soundtrack. "Our concept is that we are a specialty, one-stop supermarket for all the customer's needs in video," Moffet states.

Video Station provides each of its affiliates with "several thousand" 150-page, customized catalogs of available titles. These are given out or mailed to customers. The chain also forwards suggested TV and newspaper ads to the stores which have been "proven winners" for other retailers in the network.

ENTHUSED BY VIDEO DISCS

Retailers and distributors of videocassettes are enthusiastic about another big market they see emerging with videodiscs. These two forms of home video entertainment will "co-exist because each serves a different purpose," maintains Moffet. "It's just like in the audio industry, where the record platter and tape are coexisting, except that we had the tape first."

Moffet believes it will take until 1985 for videodisc sales to catch up with VCR sales. He also notes that the disc format has "several drawbacks. The biggest is that it will not record, so it's not the same toy as the VCR. And, right now the disc only plays a half hour at a time, and you have to change the platter if the movie is too long. But we do hope the disc hits big, because if it does, that's another item on which we can make money."

The midwest department store buyer thinks that competition between the disc and videocassettes will force down prices of the latter. "When disc sales start cutting into cassette sales, I think manufacturers will find a way of mass producing the tapes, thereby bringing down their prices." (At present, the same time is needed to produce

a videotape as the length of the movie being recorded, and this is the key reason for current price levels.)

While the department store buyer feels the laser videodisc system is superior in quality, he plans to make a major commitment to the RCA SelectaVision system, because of its lower price and the heavy advertising scheduled to support that system.

SEEKS 'STANDARDIZATION'

BCR's Roy Douglas would like to see a "standardized" videodisc system, with the laser system used as the standard. "Lasers are an initial step leading toward holograms, and that's what we're looking for eight or nine years down the road—movies on holograms," he asserts.

As far as the two types of videocassette systems are concerned, Beta and VHS, Douglas feels each offers different features aimed at a clientele seeking these particular features. "It's similar to photography, where consumers are given a chance to classify their needs and can buy machines that fit these needs. Some people may want to use their machines as an adjunct to the TV set, to tape and watch programmable movies. Others will want a portable unit that enables them to make their own movies. It's not a big problem, because most manufacturers are coming out with software in both formats."

With only about 2 million Americans owning VCRs by the end of this year, why bother to get involved in the business at the present time?

"Because it's already a substantial market," declares Douglas. "80 percent of present VCR owners buy one to two tapes per year, and you're talking about four million tapes at an average of \$50 retail each. This is a \$200 million-a-year industry in its infancy, which is already a pretty massive dollar amount."

Douglas thinks that by 1984 50 percent of Americans will own either a videotape or videodisc machine. "The players, tapes, discs and cameras are going to get cheaper. Already VCRs are being built directly into television sets, and soon people will be trading in their old TV sets to get

new ones with VCRs. These kinds of hardware improvements will rocket the software market."

Using this perspective, he sees a minimal risk in presently getting involved with home video at the retail level. "The profit potential is unbelievable—it's like the stereo industry when it first started."

"80 to 90 percent of my dealers get back the total amount of their inventory investment within the first six to nine months of their operations," says Douglas, "because we don't stick them with a lot of inventory they don't need. A year ago, getting into this business would have been a risk. Right now, it's a mild investment. In another year, it's going to be a mighty good investment!"

Rochlis leaves Mattel Electronics

SANTA MONICA, Calif.—Jeffrey A. Rochlis has resigned as president of Mattel Electronics, a position he held since that division of Mattel, Inc. was formed several years ago.

Rochlis has become a partner in MacroCosmos, a newly-created licensing and marketing group, located in Santa Monica and Cambridge, Mass. The other two partners in MacroCosmos are Dr.'s Robert and Holly Thomis Doyle, inventors of numerous electronic products, including the game Merlin.

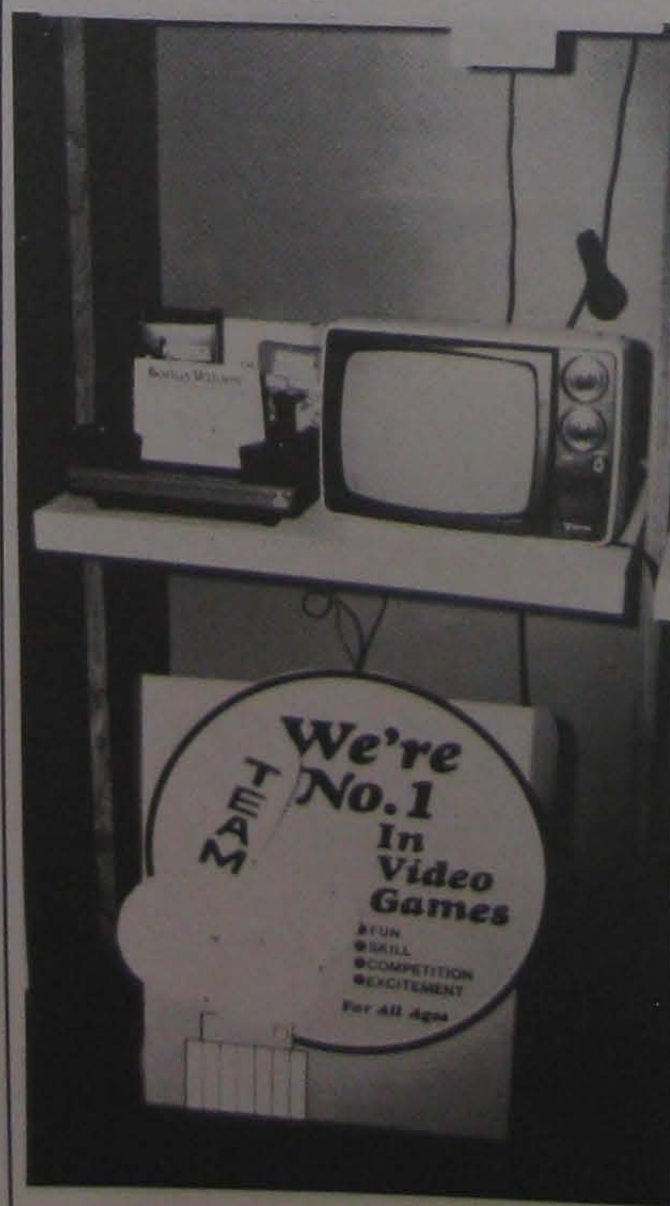
Rochlis says that MacroCosmos expects to receive within a

few months "master licensing rights" from "one of the world's leading telecommunications companies" that can be applied in the personal computer field.

At that time, Rochlis says, the firm will launch "an aggressive sub-licensing program" aimed at creating a "de facto worldwide standard among existing and potential computer terminal communications network, data base and software suppliers."

The new president of Mattel Electronics is Joshua W. Denham, formerly senior vice-president of the Mattel Toys division.

Two approaches to displaying video game systems



Two different approaches for displaying Atari's video game system are demonstrated in these photographs. At left, TEAM Electronics, Duluth, Minn., has a working unit hooked up to an accompanying TV set. A special sign calls attention to the display and stresses the store's commitment to video games. At right, a Toys "R" Us store features Atari game cartridges pegboarded on an end cap, and stock boxes of the game-playing units underneath.



Diverse group of merchants now sell home computers

Continued from Page 1

and Sears Roebuck. But home computers are also to be found in television and stereo stores, traditional hobby and game stores, business machine sales outlets and full-fledged computer boutiques.

Each chain or store has a particular belief as to why this market will be successful in coming years, and why it is important to be recognized now as an early leader in the home computer marketplace.

Personal computers have exploded onto the scene in a little over three years. In 1977, sales totaled \$100 million. This year, industry experts predict sales will reach close to \$1 billion dollars. So significant is the growth, that even traditional computer manufacturers like Control Data Corp, IBM, DEC and Commodore have all opened, or will open, their own chains of computer outlets.

CONSUMERS HESITATE

Computer merchants acknowledge a hesitancy on the part of most consumers at present to go shopping for these systems. Arguments against buying a personal computer (including contentions that they are only capable of filing recipes or balancing checkbooks—two functions that hardly require electronic wizardry) deter impulse buying, as does the average price of a system.

But there is also a deep-rooted understanding among many consumers that computers represent an inevitable wave of the future. Already, personal computer owners can gain access to much larger data banks, summoning up-to-the-minute stock quotations and news of the world. They can study educational courses, keep tabs of employee records, perform bookkeeping roles and keep an eye on inventory control. With electronic mail, banking and shopping already in place in certain areas, and expectations that these functions will all soon be available on a universal basis, personal computers become more and more attractive.

Indicating the market's attraction and growth potential are the experiences of such retailers as Ron Brinegar, owner of Lyon TV, a 1,600 sq. ft. Zenith sales and service dealership in Sonoma, Calif. In business for the past 38 years, Brinegar became a computer retailer 14 months ago. And though Sonoma has, in Brinegar's words, "less than 3,000 people and one stop light," the store has sold "over \$100,000 worth of personal



With a functioning computer in the background, The Program Store in Washington, D.C. displays a variety of software on pegboards.

computers" in that short time.

Lyon TV stocks Commodore Pet computers starting at \$795 retail, on a "one to show and one to go" basis. Brinegar also takes special orders for Texas Instruments and Atari systems and offers a selection of software, stocking it two and three deep. In addition, he offers disks, printers, computer journals, and other peripherals. Of the five people who work in the store, four own personal computers and their own knowledge of computers aids in their sales efforts, says Brinegar. The store additionally calls on some local talent to develop special software programs for those who need or desire them.

Brinegar reports that his present computer customers consist of 80 percent "education-oriented" consumers, 15 percent hobby tinkerers and five percent from the business field. Though the store represents the oldest and largest Zenith dealership in Toulumne County, today one half of its daily floor traffic is directly attributable to computer trade, says Brinegar.

EDUCATIONAL SALES GROW

With the bulk of his sales in the education field (Lyon TV has sold computers to close to two dozen colleges, high schools and elementary schools), Brinegar sees "a tremendous growth rate" in this area. To exploit it, he offers two separate, two-day workshops for teachers and a community computer open house to introduce the curious to these systems. The store will also give away a free computer as a back-to-school promotion with a local radio station this fall.

Last year, Lyon TV ran a contest in conjunction with a local newspaper and radio station that challenged the public to beat the computer by picking the winners in weekly NFL football

games. A local sportscaster gave the promotion a big boost, says Brinegar, by trying to outguess the computer every Friday during his broadcasts. Brinegar wrote the prediction program for the Commodore CBM and distributed two-color, four-sided brochures to promote the event. He reports that contest was a huge success.

ADVERTISES LOCALLY

Harold Shair, vice-president of The Computer Corner in White Plains, N.Y., does not rely on any heavy promotional event to capitalize on computer sales. Instead, he depends on advertisements on local radio stations or in local newspapers to draw customers to his store.

The 1,600-sq. ft. computer boutique was founded four years ago by Shair's wife Harriet. He recently left his job to join her in operating the store. Shair is adamant that "a computer boutique is not a toy store, it's a business store."

Shair would be at odds with those who say personal computers fit snugly into the home. He contends that "every computer we sell has some justification—and it's not filing recipes."

Shair believes "the home computer is not ever really going to exist." Instead, he foresees "general purpose computers" dominating the market. He notes, however, that these systems are more expensive and, consequently, this takes them out of the home market.

The Computer Corner stocks systems across the board, ranging in price from a low of \$179 to a high of \$11,000. Of all the manufacturers who have introduced personal or small business systems, Shair believes "the only one who did it right is Radio Shack. Nobody else started their product at \$500 with the potential to build it to a \$4,000

system without having to throw anything away."

Besides selling printers, modems, interface cards, books and magazines, The Computer Corner offers software "from the sublime to the ridiculous," says Shair. Prices range from \$7.95 for four games to \$1,300 for an inventory and accounts receivable program.

Consumers who frequent the White Plains boutique are, according to Shair, intelligent middle and upper-middle class residents who range from 30 to 50 years in age. "Some teenagers come in," says Shair, "but we only consider them seriously when they come in with their parents. They are not encouraged to stay around. It's like letting kids into a car showroom."

SYSTEM IS PROVIDED

In his "showroom," Shair displays a Commodore Pet and an Apple system. These constantly running demonstrators are provided by the manufacturer. With the aid of Apple, Shair also runs a regular seminar for business people who want to learn to program. "Apple arranged a system for us to use and provided visual materials for the seminars," he says. "Very few people offer service warranties, and Apple is the only one who is very good with support for the retailer."

Francis Ravel claims to be "the largest Apple dealer in the world." Ravel is president of Olympic Sales Co., a chain of five stores, each approximately 2,500 sq. ft. in size, that specialize in office equipment.

Olympic has been selling office equipment since 1958. With a large portion of the present small computer market centering on business applications, Ravel believed adding computers to his line would be an asset. He calls the Apple II "a beautiful item to sell." Ravel says he stocks "about \$300,000 worth of computer equipment all the time," including hardware, software and peripherals. "We move them 52 weeks a year."

In addition to the five stores, Olympic has a large warehousing operation and a worldwide mail-order business. Ravel's sales staff is well-trained and instructed to keep pace with the market as it grows. "I send all my store managers to the Consumer Electronics Show," he says. In addition, he requires his salesmen to have a good grasp of mathematics and/or a computer of their own.

Ravel also sends his staff to

Continued on Page 21

A Quick, Convenient Way to Get Complete Information on Products and Dealers Aids Shown in This Issue.

USE THESE HANDY POSTCARDS

NO CHARGE OR OBLIGATION

FREE READER SERVICE CARD

Just circle the number of each item you want information on, fill in your name and address and mail today. No postage is necessary.

Fall 1980 issue—mail before December 1, 1980

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180
181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200
201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220
221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240
241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260
261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280
281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300
301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320
321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340
341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360
361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380
381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400
401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420
421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440
441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460
461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480
481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500

NAME _____

TITLE/FUNCTION _____

COMPANY _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

Please circle the category which best describes your business:

- | | | |
|------------------------|-----------------------------|------------------------------|
| 01. Toy Specialty Shop | 10. Toy or Hobbycraft | 25. Radio, TV, Hi-fi store |
| 02. Hobby Store | 11. Wholesaler | 26. Appliance Store |
| 03. Variety Store | 14. Catalog Showroom | 27. Elec. Component Supplier |
| 04. Discount Store | 15. Resident Buyer | 30. Electronic Wholesaler |
| 06. Drug Store | 16. Manufacturer | 99. Other |
| 07. Hardware Store | 17. Mfr. Rep. (Toys) | |
| 08. Auto Store | 19. Mfr. Rep. (Electronics) | |
| 09. Department Store | 20. Post Exchange | |

Circle your approximate annual retail volume.

- Under \$100,000 \$100,000-\$250,000 \$250,000-\$500,000
 \$500,000-\$1,000,000 Over \$1,000,000

I wish to continue receiving Leisure Time Electronics _____ yes _____ no

Signature _____ Date _____

FREE READER SERVICE CARD

Just circle the number of each item you want information on, fill in your name and address and mail today. No postage is necessary.

Fall 1980 issue—mail before December 1, 1980

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180
181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200
201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220
221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240
241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260
261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280
281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300
301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320
321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340
341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360
361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380
381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400
401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420
421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440
441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460
461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480
481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500

NAME _____

TITLE/FUNCTION _____

COMPANY _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

Please circle the category which best describes your business:

- | | | |
|------------------------|-----------------------------|------------------------------|
| 01. Toy Specialty Shop | 10. Toy or Hobbycraft | 25. Radio, TV, Hi-fi stores |
| 02. Hobby Store | 11. Wholesaler | 26. Appliance Store |
| 03. Variety Store | 14. Catalog Showroom | 27. Elec. Component Supplier |
| 04. Discount Store | 15. Resident Buyer | 30. Electronic Wholesaler |
| 06. Drug Store | 16. Manufacturer | 99. Other |
| 07. Hardware Store | 17. Mfr. Rep. (Toys) | |
| 08. Auto Store | 19. Mfr. Rep. (Electronics) | |
| 09. Department Store | 20. Post Exchange | |

Circle your appropriate annual retail volume.

- Under \$100,000 \$100,000-\$250,000 \$250,000-\$500,000
 \$500,000-\$1,000,000 Over \$1,000,000

I wish to continue receiving Leisure Time Electronics _____ yes _____ no

Signature _____ Date _____

Leisure Time Electronics

Please enter my subscription to:

1 Year: \$14 _____ 2 Years: \$20 _____ 3 Years: \$25 _____

Foreign: 1 Year: \$40 _____ Airmail: \$90 _____ Single Copy: \$1.50 _____

Bill me _____ Check enclosed _____

NAME _____ TITLE: _____

COMPANY: _____

ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____

IMPORTANT: Please check the category below which best describes your business.

- | | |
|------------------------|------------------------------------|
| 01. Toy Specialty Shop | 16. Manufacturer |
| 02. Hobby Store | 17. Mfr. Rep. (Toys) |
| 03. Variety Store | 19. Mfr. Rep. (Electronics) |
| 04. Discount Store | 20. Post Exchange |
| 06. Drug Store | 25. Radio, TV, Hi-fi store |
| 07. Hardware Store | 26. Appliance Store |
| 08. Auto Store | 27. Elec. Component Supplier |
| 09. Department Store | 30. Electronic Wholesaler |
| 10. Toy or Hobbycraft | 99. Other (Please describe): _____ |
| Wholesaler | |
| 11. Catalog Showroom | |
| 15. Resident Buyer | |

Circle your approximate annual retail volume.

- Under \$100,000
 \$100,000-\$250,000
 \$250,000-\$500,000
 \$500,000-\$1,000,000
 Over \$1,000,000

Date: _____

Use Reader Service Card For A Quick Response

from
ute
on E
e pro
mes
et, to
ach.
the
roco
es
rent
orp.
ne C
com
con
or u
omj
ber
r to
ssio
the
ntro
is
he
ay
the
utr
ne
29
l b
t
a
th
ng
r
qu
l b



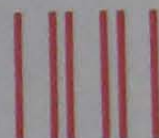
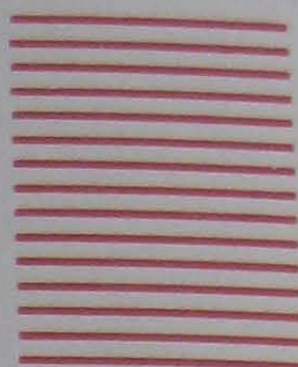
BUSINESS REPLY MAIL

FIRST CLASS PERMIT NO. 239 DARIEN, CONN.

POSTAGE WILL BE PAID BY ADDRESSEE

LEISURE TIME ELECTRONICS
P.O. BOX 3
WINCHESTER, MASS. 01890

NO POSTAGE
NECESSARY IF
MAILED IN THE
UNITED STATES



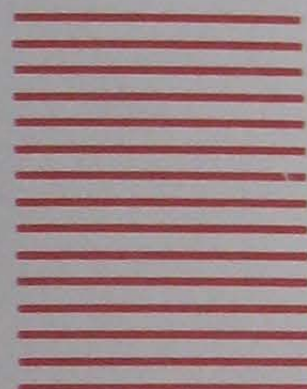
BUSINESS REPLY MAIL

FIRST CLASS PERMIT NO. 239 DARIEN, CONN.

POSTAGE WILL BE PAID BY ADDRESSEE

LEISURE TIME ELECTRONICS
P.O. BOX 3
WINCHESTER, MASS. 01890

NO POSTAGE
NECESSARY IF
MAILED IN THE
UNITED STATES



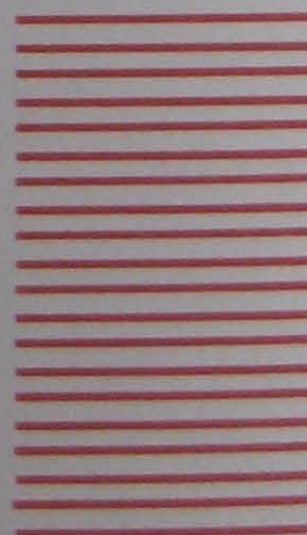
BUSINESS REPLY CARD

FIRST CLASS PERMIT NO. 239 DARIEN, CONN.

POSTAGE WILL BE PAID BY ADDRESSEE

Leisure Time Electronics
P.O. Box 1226
Darien, Conn. 06820

NO POSTAGE
NECESSARY IF
MAILED IN THE
UNITED STATES



Retailers see computer sales dependent on software

Continued from Page 19

repair and maintenance seminars offered by Apple or Hewlett Packard. "They have to be smart, aggressive and hungry, with some knowledge of computers," he declares.

"It's very important that they know about computers," Ravel adds. "If we get an engineer or a professor in here who has his own company, he knows what he wants. He doesn't expect to find a salesman with his mouth open, with nothing to say."

Olympic displays computers on 27-inch tables with accompanying chairs, allowing consumers to sit and actually work the machine. Disks, monitors, games and programs are readily available to the consumer who, once he has started to fiddle with the machine, is then approached by a salesman.

The chain carries a full line of software, up to 100 pieces of each, says Ravel. "We're not afraid to spend money," he claims. He is, however, a cautious businessman. "We don't do business with companies we feel may go out of business," Ravel contends he runs D and Bs on questionable manufacturers and, "if they are weak or shaky, we won't touch them with a 20-foot pole. We discriminate. We don't want to take a chance."

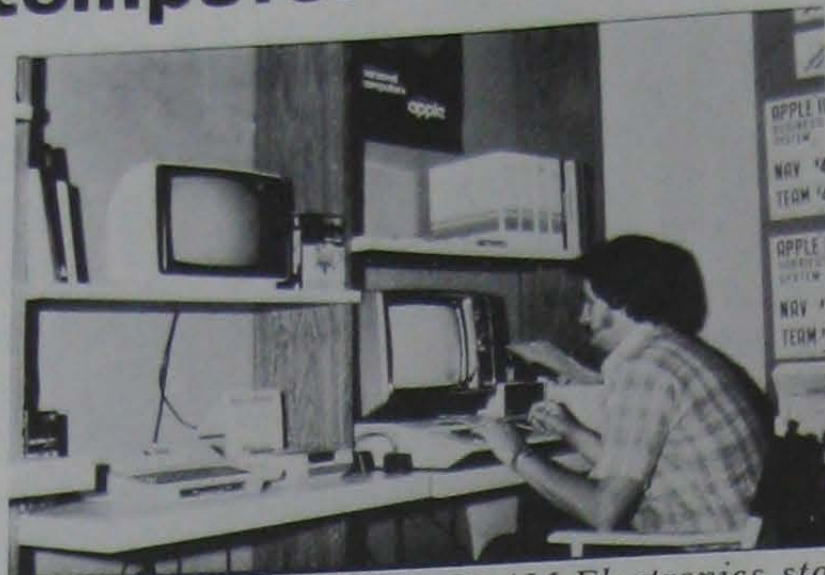
In addition to the Apple and HP systems, Olympic offers Mattel's Intellivision and the Atari 800 systems, aiming to gain sales from every potential customer.

USES LOSS LEADERS

"Word-of-mouth is very important to us," says Ravel. "We are very competitive; we are street fighters." He says the stores carry all of Mattel's electronic games and uses loss leaders to attract consumers. These are not necessarily computer items, either. "Every week I feature in the *L.A. Times* and the *Herald Examiner* ads for blank video cassette recorder tape for RCA and Sony systems below dealer cost," says Ravel. "This brings them into the store, and before you know it they buy a VCR or a computer."

Ravel is already making promotional plans for the day he gets his hands on the new Apple III systems. He plans to do a 10,000 mailing to doctors, dentists, lawyers and professional businessmen and have his sales force follow up with phone calls or personal appearances. He is confident this group will be easily sold on the Apple III, with its 128 K memory.

The Olympic sales president



Computers on display in TEAM Electronics store, Duluth, Minn. and Lyon TV, Sonoma, Calif.

sees "a tremendous mortality rate in computer stores," particularly in California where competition is keen. He predicts that "50 to 60 percent of all computer stores will die if they only concentrate on computers. When you can only sell a computer, you're putting all your eggs in one basket. You have to compete with a guy like me, who spends \$1 million on advertising; who sends out a million catalogs; who sells a lot of different products. We take away their business."

OPENS NEW CHAIN

A new chain of stores based in the mid-Atlantic seems to be following a similar course. Called Games, it consists of eight stores that evolved from a single test site. In direct response to "public demand for competitive electronic entertainment systems," the stores offer home video games, pinball machines, handheld electronic games, foosball tables, strategy board games, computer chess and backgammon, home video movies and personal computers.

The firm's president, Thomas Haddaway, reports "there is a lot of competition" in his area that keeps pricing low. Operating out of Cockeysville, Md., the chain offers the Atari 400 for \$599, the Atari 800 for \$999 and APF's Imagination Machine for \$359. "When Mattel's Intellivision console is available, we'll handle it as well," says Haddaway.

Three units of each computer are stocked at all eight locations. One demonstrator with a printer and all accessories plus software are constantly operating. Haddaway says the chain is "a little heavier in software," stocking as many as 25 of an item with prices ranging from \$13 to \$49.95. The biggest sellers are in the areas of business, education or entertainment, he says.

In all, there are 10 square feet of display area devoted to personal computers in the stores. In the rest of the stores, one full wall is devoted strictly to commercial-sized pinball ma-

chines. A counter area features computerized backgammon, checkers, chess and other handheld games on display. In the back of the stores are TV monitors showing various versions of video games from Mattel, APF, Atari, and Magnavox. Racks in the middle of the store hold electronic handheld and board games. Another counter area holds "pick-me-up" items; i.e. general accessories, batteries, and movie cases for VCR movies.

CUSTOMERS SPLIT 50-50

Haddaway notes that his computer customer base is currently split 50-50 between small businessmen and hobbyists. He finds in-home use very limited at this point but believes "a good, solid market will evolve in 5 years."

The chain promotes heavily and has a major event scheduled for mid-September. At that time Games will hold a Consumer Awareness Show at a 26,000-sq. ft. facility on the Maryland State Fair Grounds. Haddaway predicts the show will attract 50,000 people who will come to see the chain's full line of merchandise, as well as representatives from manufacturers like Atari, APF, Avalon Hill, Milton Bradley and Coleco.

Consumers will be invited to witness hands-on demonstrations of the various products and participate in special tournaments and drawings. Local celebrities will also be on hand and plans call for live-remote broadcasts from the Fair Grounds by local radio stations.

FOURTH QUARTER ACTIVITY

In an enviable position as the fall approaches is Raymond E. Daly IV, president of The Program Store in Washington, D.C. For while retailers admit sales of personal computers don't often come as easily as they would like, they find that software moves well and quickly. This seems to be especially true in the fourth quarter when software becomes an attractive and useful Christmas gift. Daly says his sales of software jumped

percent last year around Christmas time.

In business since the fall of 1979, The Program Store offers Atari systems and plans to add Apple in the near future. As the name implies, the store's major item is software and Daly can rattle off close to 20 manufacturers in a minute's time whose software he carries. Prices range for the most part between \$7.95 and \$19.95 but they can go as high as \$100. The store tries to keep three of each title in stock but goes as deep as 40 for some best-sellers.

SEES DUAL USAGE

Daly has a theory on personal computer buyers. He contends that "people will buy one for their home and then take it into their small business for application there as well. My whole theory," he says, "is that the reason a lot of people buy these machines is because at one time or another in their life they were doing computer programming and they're not doing it anymore, and they miss it."

He says the market is "broadening quite a bit. More and more people who never dealt with computers are first getting into the field. The software market is just exploding."

Expansion of computer sales will be greatly dependent on the availability of a broad selection of software, Daly holds. He believes it is most important for manufacturers to "encourage people other than themselves to write software."

Backing up his contention, he contrasts today's consumer attitudes with those of the past. "A while back, members of computer clubs would always first ask what type of microprocessor was contained in the system," says Daly. "Now, their first question is 'What programs are available for the computer?' We've got to provide enough programs to make consumers' investments in computers meaningful and worthwhile."

Use LTE's convenient reader service card

Manufacturers offer computer for many interest levels

Continued from Page 1

all types of retail outlets, ranging from electronic specialists to national chains, discounters, department stores and hobby and toy stores.

In view of the continually increasing variety of computer products and their growing sophistication, the retailer who is new to computers can become as confused about selling them as the consumer often is about choosing one.

Today there's a computer model for every level of interest and knowledge, and for users from young children through scientists. Many are designed for use by the entire family. Education, information and entertainment—all available at the user's convenience—are the primary services personal computers offer, although in some cases the control of appliances and household security are other options. Future applications like electronic mail are being tested, and owners continually are discovering individual ways their computers can help in managing personal and business activities.

Some manufacturers emphasize one type of user benefit in tailoring a computer for the market. Education with fun is the theme in the learning aid

category, which includes kiddie computers from Coleco and Entex and handheld learning aids from calculator manufacturers like Texas Instruments and National Semiconductor. Retail prices range from \$20 to \$60.

Entertainment for all family age groups is the focus of the programmable video games, which offer some familiarity with the way a computer works and usually have a "computer introduction" cartridge. Examples in this group are the Magnavox

Odyssey II, Atari Video Computer, Mattel Intellivision and Bally Computer System. These use pre-programmed software and usually retail at just under \$200.

ALLOWS FOR PROGRAMMING

Games plus enough computer capability to satisfy the needs of many families come with the game/computer units. These can handle pre-programmed software in entertainment, education, and other areas, and also allow the owner to write personal

programs. APF's Imagination Machine combines a game component with a computer and allows owners to add accessories (known as peripherals in computer jargon) to expand its use.

Mattel's Intellivision is a game unit at present, but a computer component is in development. Introduction of the keyboard for computer functions now is planned for January. Game/computer retail prices, without peripherals, start around \$500, and programs go for \$10 to

Continued on Page 24

More Popular Than Santa?



Well, on Christmas day, probably not. Otherwise, The Amazing Spider-Man actually outdraws Santa

Claus whenever and wherever the two make "in-person" appearances at stores, shopping malls, or community events.

What's more, Spider-Man and a host of other Marvel Comics characters are year-round favorites. One low-cost space buy opens the door to Marvel's 48,389,000 monthly impressions (15,762,000 net unduplicated readers). That's a CPM of 86¢. When you consider that Marvel Comics yearly reach an incredible 77% of all kids in the United States between 6 and 17, it's easy to understand why advertising in them is so effective.

Advertising in Marvel Comics might just be the next best thing for toy manufacturers to having Christmas 365 days a year—especially for products featuring licensed Marvel characters.

For more information, contact:

Vincent Karp
Advertising Sales Director
MARVEL COMICS GROUP

575 Madison Avenue
New York, NY 10022
212/838-7900



Copyright © 1980 Marvel Comics Group
A Division of Cadence Industries Corporation



Nixdorf LK-3000—Circle No. 211 on product card.



APF Imagination Machine—Circle No. 212 on product card.



Panasonic HHC—Circle No. 213 on product card.

Retailers sell computers with demonstration, education

Continued from Page 23

\$50, depending upon content and programmer.

Sophisticated board games like chess, backgammon, or even bridge can be played by beginners or experts on single-purpose game computers from Fidelity Electronics, Tryom and Chafitz. In portable or tabletop styles, the games offer both instruction and play at different levels of difficulty. Checkers is an additional option on some models, and Tryom adds bridge.

In other single-purpose, hand-held computers, consumers can count calories with the Comus diet computer, check biorhythms or horoscopes on the Kosmos units, or get astrological data with Coleco's Zodiac. These units retail for up to \$50.

POCKET-SIZE MODELS

Portability and information storage are features of certain pocket-size models which first were introduced as language translators. Data is stored in tiny capsules or modules that the user snaps in and out, and that also are being used for other kinds of data like nutrition or a bar and wine guide. Except for a Nixdorf model, users cannot program the modules. Craig, Nixdorf and Texas Instruments are among manufacturers of this

type of computer at retail prices of around \$200 for the unit and \$25 to \$45 for extra modules. Casio plans to introduce its version early next year, and other firms planning entries are Sharp and Toshiba.

HAVE DUAL USAGE

Quasar and Panasonic have similar pocket-size units that can be used separately or as control units for computer systems that will fit into a briefcase, complete with peripheral equipment. Used alone, they function as calculators, translators, games and sources of information. All of the peripherals are modular so that the systems can be expanded as the user desires. Delivery is slated late this year at prices not yet announced.

Another variation of the portable computer is the ZX80 from Sinclair Research Ltd. Intended for use in the home, at work, and in college or school, this item weighs only 12 ounces and is used with any television screen. Program storage is on conventional home cassette players. Suggested retail price is under \$200.

Education and a greater amount of computer power, plus games, are the strong points of a group of models intended for family use with the television set or a separate monitor. Many in this group also double as small business computers. User-programmable and with more memory than game/computer models, this group includes the Apple II, Atari 400, Commodore PET, and Texas Instruments 99/4.

SPECIAL CAPABILITIES

Each has special features and capabilities, and all offer a varied list of pre-programmed software with business applications as well as appeal to family members of all ages. Accessories like printers, disc memory storage, telephone modems, and light pens are available now or scheduled for introduction soon. Prices at retail range from \$795 to \$1,200 for basic units.

Computers with capabilities and applications directed more to the experienced user or business person than to the family novice are offered by Compucolor and Ohio Scientific and by the Atari 800. Retail prices for the basic units range from about \$500 to \$1,200, but the cost of peripheral equipment, usually required by the buyer, can easily double or triple the initial cost.

Planned specifically to meet the needs of the scientist, engineer, or other professional,

the Hewlett-Packard 85 is a portable model about the size of a large typewriter. It incorporates a monitor screen and has a built-in printer which can produce graphs. The unit does not play games (unless an owner decides to write his own game program). Suggested retail price is just over \$3,000.

Although sold primarily by factory salesmen or through computer specialists, other computers are available that can provide the home user with as much computer capability as desired. These models, however, require such a large investment that they are not in the mainstream of the consumer market.

KEYS TO SALES

Demonstration, education of the consumer, and "hands-on" experience for prospective buyers, backed up by a service program, are the keys to computer sales, agree successful retailers. Apple believes so strongly in the value of demonstration that its sales agreement with Apple II dealers requires that a unit with a demo tape be running at all times the store is open.

Selling the attraction of the computer games, then explaining about other uses, is the technique that Team Central, one of the first chains to offer the Apple II, used to get sales started in the Minneapolis area. Classes in computer use and clubs for purchasers, offered free or at nominal cost, are other methods tested and approved by the specialty stores.

Manufacturers are helping to build sales interest and educate customers with advertising in consumer magazines and with network television commercials, as well as with local merchandising support through point-of-purchase displays, dealer ad materials, and brochures.

Strong back-to-school ad campaigns on TV and in print are scheduled to continue into the holiday selling season by Atari, Coleco and Texas Instruments, among others. APF is billing its BASIC (a computer language) tutor cassette, which uses the computer in a step-by-step learning experience, as "the great closer" for its Imagination Machine.

Steady release by manufacturers of new software applications that make it easy for owners to learn a new skill or game or accomplish a new project are an additional means of stimulating sales in the store, both of the software and of other items.

The importance of return



Quasar Hand-Held—Circle No. 217 on product card.



Apple II—Circle No. 216 on product card.

visits for new software is emphasized by Lynch's TV in Westpoint, Ga., which reports: "We sold three television sets and two refrigerators in the first six months of this year to customers who came into the store to buy an additional cartridge for their Magnavox Odyssey II. Selling the basic unit brings repeated store visits."

Locating the computer center in a prime area of the store is another way some retailers are promoting computer products. Gimbel's, New York City, keeps attention high and sales brisk by spotting home or personal computers in an electronic center. Other products carried in the center, which has a "space age" decor, are handheld electronic games, TV games, television sets, calculators and digital watches. Bright lights and TV screens mounted high on the wall to show program action attract shoppers like magnets.

MAKES BUYING EASY

Making it easy and pleasant to buy a computer is the direction On Line Microcenters is taking in its plans to create a mass market. On Line, which opened its pilot store in San Jose, Calif., in June, plans a chain of franchised stores in regional malls and shopping centers.

"One of our key marketing techniques is a store design that encourages the customer to first encounter friendly, touchable items such as handheld games and gadgets of interest," says John Martin-Musumeci, founder

Continued on Page 25



Mattel Intellivision—Circle No. 218 on product card.



Atari Systems—Circle No. 215 on product card.



Ohio Scientific CIP—Circle No. 214 on product card.

Electronic games pave way for vertical consumer buys

By G.A. (TONY) CLOWES
President
Entex Industries, Inc.

As we enter the 1980's electronic games have clearly become a star sales performer of the leisure time electronics product category. This has happened in just three years; hence, there is some speculation as to the staying power of these products.

There is little doubt that without the conditioning the consumer was exposed to with TV games in respect to both play value and cost acceptance, handheld electronic games at \$20-\$40 would not have been as readily accepted. The consumer, in fact, has had rapid exposure to many

processors and displays, as well as wider applications of microprocessors in other products.

Another significant factor that will continue to influence the market is, of course, component availability. Up to this point manufacturers have directed their components to the safest market: handheld games. Ventures away from this category have had the maximum failure rate. However, disappointment with the level of sales of many products resulted more from over-optimism and provisioning than from an unsatisfactory sales level.

A component shortage may be hard to conceive by the toy buyer who is confronted by a salesman pleading for an order, or being offered a close-out of a slow mover, but the shortage is still there.

SYMPTOM OF RECESSION

Some of the mid-year apparent softness is a symptom of the current recession, with industry toy orders on-hand down 38 per cent (as of May 1st). It is evident that no one is backing up the normal year-end business. There is no doubt that with electronics appealing to an older age group, with more spendable dollars, year-round sales will be better than most toys. But we cannot expect the eternal Christmas season of '79, enhanced by the "first on the block" syndrome.

We all know the classical scenario of product shortage, followed by overproduction. Fortunately, the shortage of microprocessor components will restrict us from killing the golden goose, and barring a massive economic blunder by those pulling the strings, there will be a shortage of electronic products by the end of this year's Christmas buying season. The product that did not sell last year, however, will still be around and will be joined by a few newcomers.

The exposure and success of electronic toys has presented new avenues for those who manufacture and design for our industry. Infinitely more thought is going into what can be achieved, and innovation is bound to result in desirable product in the future. Development lead times, however, are not getting shorter and if manufacturers are troubled by any serious doubts about retail support, some may hesitate to get too deeply involved in long-term development. Shortage of capacity may not be as significant an impairment to our volatile industry as shortage of confidence by the manufacturer to commit far

enough ahead on the trade's behalf.

As the market levels out, manufacturers will direct their components and efforts to a wider spectrum of products, and they and the trade will be satisfied with lower annual unit sales per product category. Classics will begin to develop as with other games, which will freeze some current technology.

SUPPLY PROBLEM REMAINS

The supply of integrated circuits (IC's) will continue to be a problem for at least 10 years if the industry maintains the full market potential. Furthermore, there are virtually millions of non-toy products for microprocessors lining up for conception, in addition to existing known needs.

It is impossible for IC manufacturers to gear up fast enough to meet the future demand, and doing so in view of the looming polysilicon shortage may not be prudent. Increasing capacity by reduction of chip size holds out the greatest short-term hope. However, it also can result in higher reject levels and more critical components. It also makes the possibility of cost savings by end product manufacturers more remote, as direct

assembly of the chip into the product is more difficult (Chips currently are primarily sold in a plastic case).

The net result of these problems is that manufacturers will try to get more out of existing technology and buy components when they are available during off-peak demand cycles. However, off-peak buying precludes large involvement by smaller manufacturers, because the gamble is substantial. Thus, smaller manufacturers can reduce the gamble through less use of dedicated components. These can only go into one product, on which demand might deteriorate before the product reaches the market. This same consideration also affects displays.

MERGING OF DEMANDS

We are also beginning to see merging demands of the electronic novice and the computer game aficionados, a rapidly expanding group. True computer games create strategy needs beyond chess and bridge levels, but which can be more imaginative and pertinent to real things. As this merging takes place, game technology will rise to fill the needs. This will

Continued on Page 28

Home computer market expanding

Continued from Page 24

of the franchise development company. "Then the consumer proceeds through sections containing calculators, digital watches, and other familiar items. Finally, after becoming comfortable with the atmosphere, the customer reaches the most complicated items—the computers."

Martin believes that "the big business in computers in the next two years will be in the home market, where sales will outnumber business sales by four to one. The day of the half million-dollar to one million-dollar a month computer store is coming."

Stressing that the computer is not a "hot" or fad item, Raymond E. Kassir, Atari's chairman and chief executive officer, maintains that "the personal computer represents an important, long-term opportunity for retailers. There is a profit opportunity on an on-going basis through hardware and hundreds of software programs that will sell year-round."

He predicts that one home in four will have a personal computer by 1990 but cautions that marketing of personal computer products means a long-term commitment to an educational

process for everyone involved—from manufacturer through distributor on to the retailer.

Kassar also believes the personal computer "will become fashionable. People will compare computers as they compare cars now, and they will collect software libraries which will be roughly equivalent to a bookstore, newsstand, reference library, department store, grammar school and university combined."

What lies ahead for the personal computer user? For one thing, access, via telephone or TV and the computer, to all kinds of data bases and information sources. There will be more self-improvement and education offered through home software. Viewdata or similar newspaper/information service will be available and the computer will be used for such interactive applications as shopping and mail.

All of these applications and services are being tested or being put into operation right now. Retailers already involved in computer merchandising are well aware of these far-reaching future applications. They understand that they have made a commitment to bringing tomorrow's world into today's living-room.



G.A. (Tony) Clowes

factors that will influence his future acquisitions of electronics, and thus the future of this business.

The acceptance of the \$500 and up personal computer is indicative of the consumer's thirst and curiosity for electronics in any form, as the value of a personal computer in its present form is questionable, and to a large extent it is an educational device. I refer to this consumer conditioning because it influences the technology that is and will be used in game applications. It will also influence the demand, now that sufficient product is on the market, to allow consumer selection. Until recently the consumer has been less selective and would buy almost anything that would feed his appetite.

COST IS SECONDARY

I believe that cost will be a secondary consideration in respect to where consumer resistance begins, as is evident in the demand for high-ticket chess sets and TV entertainment devices, among other products. As the initial novelty wears off, electronic game products will start competing with mechanical and board games. Thus, the electronic games market will be sustained by features that cannot be duplicated by other means. The net result is that we will see more complex micro-

Radio Shack educates; promotes computer line

NEW YORK—Education of the consumer-buyer and consistent promotion are the methods Radio Shack uses to keep its TRS-80 at the top of the computer best-seller list.

Every one of the regular Radio Shack catalogs, mailed annually by the millions, includes the TRS-80 and its peripheral equipment. Free comic books, distributed through approximately 3,000 outlets in the U.S., introduce young people and novices to the workings of the computer, and regular advertising reiterates the message.

Merchandising is done through 50 computer centers, which are special sections within Radio Shack stores, and through 100 other stores with specialty computer departments. These are chosen for geographical coverage of important markets. Each has a specially trained sales staff, which conducts evening classes in programming at beginner and advanced levels.

In addition to this regular program of education and promotion, the chain regularly conducts a series of "computer blitz" events in major markets. A full-page newspaper ad invites

consumers to get "hands on" experience at a free computer seminar, scheduled at a local hotel for one or two days. No reservations are needed for the hourly programs.

UNITS WORK ALL DAY

Each of 90 working units with printers was in use all day and into the evening at a recent New York City blitz. Staff members and a prompting program in the computer guided attendants through the steps of producing profit and loss statements or accomplishing other tasks. A film and brief explanation were included on the program, but the highlight was seeing how easy it is to use the TRS-80. While visitors waited for a turn at the machines, and afterward, there was ample opportunity to get questions answered and pick up literature or make purchases. Two additional classes discussed specialized applications.

Attendance at the seminar qualified persons for a certificate good for a free course in programming at a Radio Shack center. The chain also gave out a package of literature to each attendant, and a mailed follow-



Computer centers such as this one are special sections found in 50 Radio Shack stores selected for their geographic importance.

up a week later offered a limited time price special on the TRS-80.

Effectiveness of the blitz is reflected in the comment of a New York City store manager that "we'll sell all of the machines used in the seminar before it ends, and additional sales will continue in the store."

Although the promotional activities are directed to business buyers, the TRS-80 also is used by many as a home computer for personal use, partly because it was the first

unit available for under \$1,000. Many clubs have also been privately formed to exchange information and stage competitions.

Radio Shack recently added three models to its current computer line, including a color unit and a pocket version. There are five computers now being offered by the Tandy Corporation division, with prices for the units ranging from a low of \$299 for the pocket model to \$3,450 for the TRS II.

Polk's links computer sales with electronic game business

NEW YORK—Personal computers are seen as an upward extension of the electronic game business at Polk's Hobby Department store.

The five-story, well-respected store, located on New York's Fifth Avenue, was one of the first retailers in the country to handle computers when it began stocking them in kit form almost five years ago.

"Most of our personal computer customers become hobbyists, like model train or model plan buffs," remarks Lewis Polk, manager of the store. "I went after the hobbyist market

early because computer kits were then available, and I knew that many schools were teaching computer programming, or had computer clubs. Many young people who receive this rudimentary exposure get their appetites whetted, and want to own a personal computer of their own."

MANY STUDENT CUSTOMERS

Polk says the biggest part of his market consists of college and high school students who were exposed to computers in this way. Other customers are programmers who seek a com-

puter of their own.

Polk is in the process of tripling his 500 sq. ft. basement computer department, and combining it with his extensive electronic game selection for third-and fourth-quarter selling. "Personal computers are nothing more than ultimate game machines," he contends, "with additional strong applications in the area of education."

The store presently carries computer systems from Atari, and Ohio Scientific, plus the imported TRZ-80, a lower-priced version of Radio Shack's popular TRS-80.

An operating unit of each type is always kept on display.

Consumers want home computer systems featuring color displays, and which have typewriter keyboards, Polk notes. He says he buys 10 units each of the Ohio Scientific models, "and they sell out within a month."

Polk's also presently stocks 300 different software programs, displayed on pegboard hooks in poly bags with headers. As part of the expansion, the software selection will be increased significantly.

SEEKS MORE SOFTWARE

"The biggest part of the business is the software, because it lends itself to the hobbyist concept," says Polk. "Your customers always want the latest tapes."

Polk reports that best-selling current titles are the ones offering fantasy games. "We order these in multiples of one dozen each, as against two or three of the others. The software we carry fits the hardware that we sell."

He also finds a large followup business in accessories. Accessory sales are led by the telephone modem, which allows

Continued on Page 27



Lewis Polk (above) demonstrates a computer. At right is large display of pegboarded software.



Circle No. 20 on product card

Electronic games pave way to personal computers

Continued from Page 25

primarily result in higher level microprocessor use in games. Demand, however, will not be as rapid as with current products, because product exposure is a vital component of demand, and the more complex the product

the less capable is our promotion ability.

Home computers will probably be widespread by the mid-1990s. At some point during the next 10 years it is probable that they will be a built-in feature in middle-class homes.

They will, however, inevitably become outmoded as soon as the communication industry gets its act together and provides terminal-to-terminal transmission needs. The U.S. economy is the only thing that is holding up this technology, and it will probably

take the U.S. 10-20 years to readjust to present-day realities.

The advent of the Cathode Ray Tube (CRT) in most homes 20 years from now will cut a very big chunk out of the total game market, other than for those games directed to children eight

For the first time ever:
a wafer-thin battery with
high surge capacity.



years and under, where senses other than sight and sound are significant game components.

In the remaining years of grace, we are likely to see hybrids of existing game formats. The computer programmables will also become of greater significance, requiring a

level of chip with more Random Access Memory (RAM) capability than is currently used.

Very large scale integrated circuits (VLSI's), as they become available in significant quantity, may erode both ends of the spectrum. They will make computers smaller and less expensive and vice-versa for

games, resulting in a trade-off between a gaming unit and a computer at some point.

In the very near future we will see greater use of next-generation chips, 4K - 8K, but these will be limited to a large degree by supply and market settlement. Exposure to the greatly enhanced play value provided by

these new chips will almost guarantee strong demand. Improved color displays of all types will also be utilized, but may ultimately require more power than the batteries currently used when more than two colors are available.

The fundamental criterion for a
Continued on Page 30

The battery technology that was a major factor in making the Polaroid SX-70 Land camera the world's finest instant camera is now available—in an even more advanced version—as a power source where thinness is an important design consideration.

The new Polapulse P100 is a six-volt battery that can accurately be described as a revolutionary development in commercial batteries. For while the P100 contains four unitized $1\frac{1}{2}$ -volt cells in one 3.73 x 3.04-inch package, it is only .18 inch thick and weighs less than an ounce.

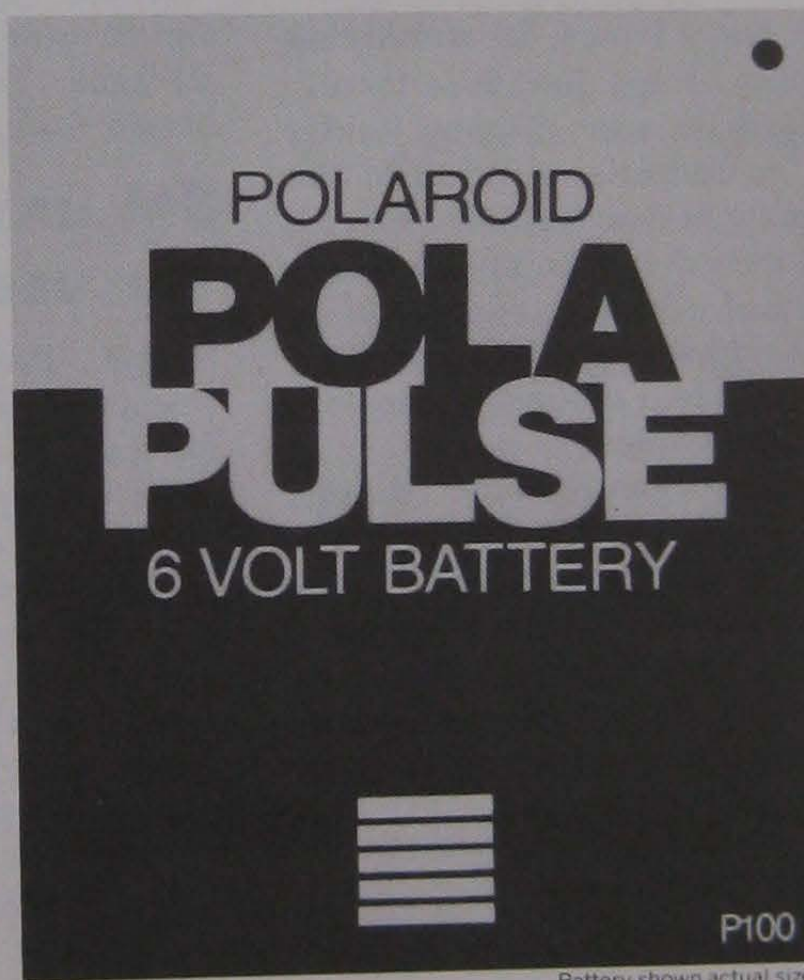
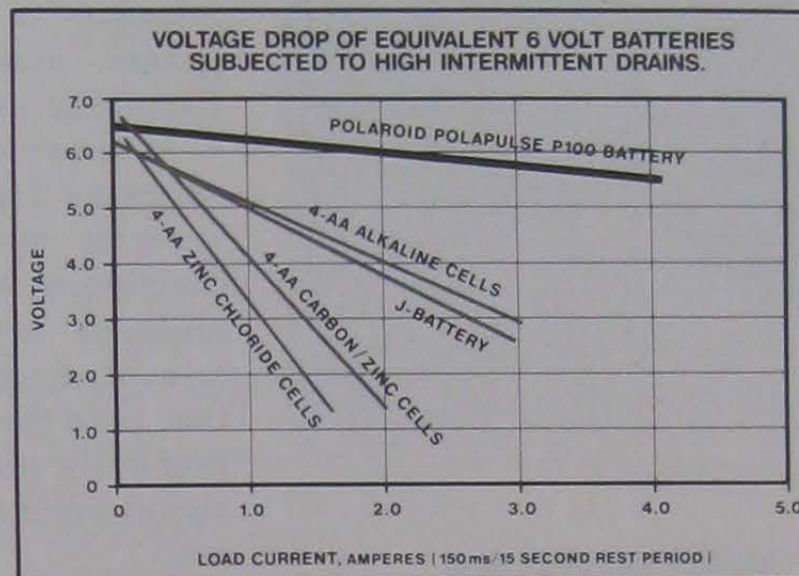
The Polaroid Polapulse battery behaves like an alkaline battery in its efficient use of chemical energy at low-drain rates—but is significantly superior at the high end. As you can see in the graph, the Polaroid Polapulse battery has remarkable high-drain performance. Due largely to the broad surface area of its electrodes, it has the capability to recover quickly after delivering large bursts of current. And in use, it is virtually impossible to accidentally reverse the polarity of this battery.

As a result of a unique seal combined with the Polapulse battery chemistry, no known leak damage has resulted from more than 300 million thin batteries in SX-70 film packs.

Obviously, the combination of power and compactness offered by the Polapulse battery goes a long way toward solving the problem of battery thickness as it affects product design. Calculators, electronic games, toys, remote controls and security devices are important applications, to mention but a few.

To help you determine the potential of this product as a power source for your designs, we will be happy to send you our Designer's Kit consisting of 5 Polapulse P100 batteries and a molded battery holder with external connections. The price is \$15.00* plus applicable state and local taxes. Technical characteristics and performance data are included.

*Price subject to change. Original battery design developed jointly by Polaroid Corporation and Ray-O-Vac Company. "Polaroid" and "SX-70" are trademarks of Polaroid Corporation. © 1980 Polaroid Corporation.



MAIL COUPON WITH CHECK OR MONEY ORDER TO:

Polaroid Corporation, Commercial Battery Division, LT
784 Memorial Drive, Cambridge, Mass. 02139

☐ Please send me more information.

☐ Please send me _____ Polapulse P100 Designer's Kit(s)
at \$15.00 each. I am enclosing \$ _____ which includes
applicable sales and local taxes.

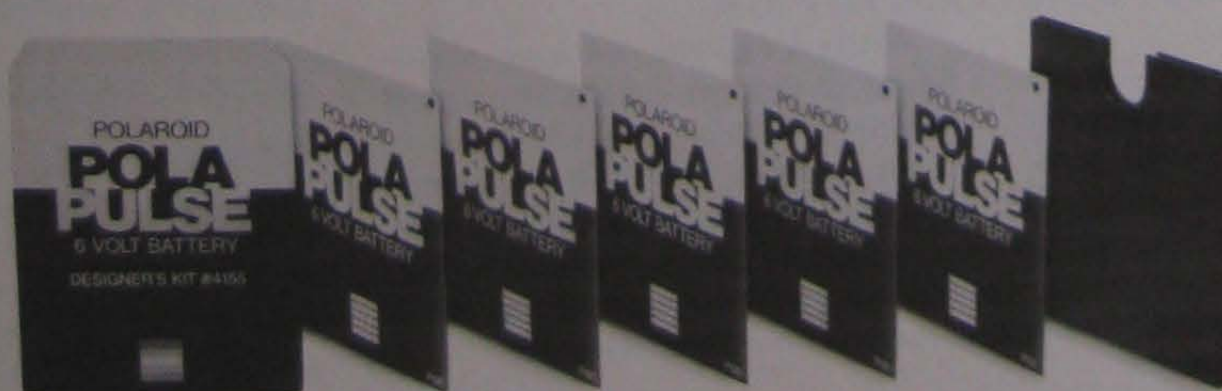
Name _____

Title _____

Company _____

Street _____

City _____ State _____ Zip _____



Polaroid
Our inventions can be your components.



Four new wargames from Microcomputer Games.

Microcomputer offers wargames

BALTIMORE—Avalon Hill, a major strategy game producer, introduces five wargames for the home computer market, to retail at a suggested \$15 each.

Marketed through the firm's new subsidiary Microcomputer Games, Inc., the games can be played on three current home computers, Tandy Corp.'s TRS 80, the Apple II and the Commodore Pet. Each game comes in a complete package containing software and rules for use on each of the different computers.

B-1 Nuclear Bomber challenges the game player to pilot a B-1 bomber on a mission over the Soviet Union to the target city. The computer controls the Soviet air defense.

Midway Campaign is a computer simulation of the World War II battle for Midway island. The player commands the badly outnumbered and outranged

U.S. Navy forces, in attempting to stop a huge Japanese force.

North Atlantic Convoy Raider is a computer simulation of the Bismark convoy raid of 1941.

Nukewar is a computer simulation of a nuclear confrontation between two hypothetical countries. All four of these games are solitaire games.

Another game, Planet Miners, gives one to four players the chance to compete with each other and the computer to stake valuable mining claims throughout the solar system in the year 2050.

B-1 Nuclear Bomber—Circle No. 159 on product card

Midway Campaign—Circle No. 160

North Atlantic Convoy Raider—Circle No. 161

Nukewar—Circle No. 162

Planet Miners—Circle No. 163

APF introduces full software line for Imagination Machine system

NEW YORK—APF Electronics offers a full line of education, personal/home management and entertainment cassettes and cartridges for use with its personal computer The Imagination Machine.

The company's diverse selection of cassettes and cartridges consists of 30 different programs, running from budget balancing to playing Blackjack.

In the entertainment area, the company features more than 15 cassette programs and game cartridges for both adults and children. Included is Space Destroyer, a new video space game that puts the player in the commander's seat, maneuvering a squadron of three space destroyers.

APF's education programs aim to tutor and test students of all ages. Typical titles include Music Composer/Player Piano,

Typing Tutor, Artist and Easel, Computer Lab and The Word Factory.

The company's BASIC tutor program teaches BASIC, the computer language, directly on The Imagination Machine. It provides instant feedback through an Input Monitoring System that tells the user when a mistake is made and why.

All of the firm's educational programs include the Time Response Mechanism, which gears the format automatically to the student's skills, speed and learning development.

Cassettes designed for personal and home management needs include programs for budgeting money, and estimating amounts of supplies needed for home repairs.

APF cassettes and cartridges—Circle No. 169 on product card

3M unveils virgin 'Scotch' Diskettes for use with personal computers

SAINT PAUL, Minn.—Virgin "Scotch" Diskettes, designed for use on a wide variety of diskette equipment, are now available from 3M.

The Diskettes are compatible with dozens of small business systems and personal computers including those from Apple, Commodore and Ohio Scientific.

According to the firm, these diskettes meet or exceed all industry specifications and incorporate a number of special features. A unique formulation of oxides and polymers is used to promote long life and surface smoothness. The oxide is uniformly dispersed within the

polymeric solution to maximize performance through controlled signal uniformity.

The 3M medium is permanently encased in a tough, high temperature-resistant polyvinyl chloride (PVC) jacket which resists handling damage. Stress-relief notches in the bottom edge help prevent creases and other handling damage from day-to-day use.

The Diskettes are packaged in a variety of ways including book-shelf-style boxes of five, ten and twenty-five units.

740 Diskettes—Circle No. 180 on product card

Playability marks success of electronic games

Continued from Page 29

game's success is its "playability." This aspect will become more significant than technological considerations, and is based on the premise that one judges a game by playing it, not by reading the rules or an advertisement. Consequently, brand image is and will become

a more significant competitive factor, as it is with board games.

As high-level microprocessors are used, technology becomes more feasible. More specifically, chips may be developed for game and toy use instead of being modified for this application, but many of these advances will not

be immediately obvious to the everyday user.

While I cannot disclose significant developments just around the corner, I can see advances in technology which indicate there is enough in the pipelines to keep consumers' infatuation with electronics alive long enough to blossom into addiction. ■

Mid-Atlantic Computer Show begins September 18th

WASHINGTON, D.C.—The Mid-Atlantic Computer Show will be held at the Starplex, here, beginning September 18th and continuing through the 21st.

The show aims to serve the dual markets of Washington and Baltimore and is managed by

Computer Expositions, Inc. The firm will also stage two other fall shows. They are the Mid-West Computer Show, to be held at McCormick Place in Chicago October 16th through the 19th, and the Northeast Computer Show, to run from November

20th through 23rd at Boston's Hynes Auditorium.

All three shows are heavily advertised and promoted to the business, scientific, and micro end user markets. Hundreds of manufacturers, distributors, OEMs and retailers attend.

N'tl Semiconductor defers wafer fab plant construction

VANCOUVER, Wa.—National Semiconductor Corporation reports it has deferred construction of its announced 200,000 square foot manufacturing facility here due to the uncertainties created by the recent activity of Mt. St. Helens.

The firm says it will select another location for the wafer manufacturing plant, scheduled to have opened here in late 1981. According to National, "meaningful negotiations" are currently underway with the Vancouver School District to retain a one-year option on the property.

One good profit-maker deserves another.



SCRABBLE[®] BRAND SENSOR[™]

Electronic Word Game! It's made a lot of money for a lot of dealers. The game itself is a winner. And so is the high-impact advertising we've put behind it. Exciting commercials on network and spot TV. Full-color ads in magazines like *People*, *The New Yorker* and *Games*. Geared to generate the fast-moving sales you always expect from Scrabble[®] Brand game products.



INTRODUCING SCRABBLE[®] BRAND LEXOR[™]

Computer Word Game. A totally new kind of electronic fun.

NEW alpha-numeric display. NEW electronic timing. NEW automatic scoring to make it all fun and no work. One to four players can take their pick of three different ways to play.

Heavily promoted! Spot and network TV. Full-color ads in national magazines, such as *People*, *Life* and *The New Yorker*. The sales action will be hot and heavy. Don't miss out!



SCRABBLE[®] is the registered trademark of Selchow & Righter Company for its line of word game products and entertainment services.
Circle No. 18 on product card

We're spending more than ever so you'll sell more than ever.

You'll be seeing a lot of Atari® this year. On network television, in magazines and in your profits.



We're going to be all over the place. And there's good reason for it.

The biggest ad budget in Atari's history.

We're spending millions to make sure consumers know who we are. You'll see Atari commercials this fall on CBS, NBC, ABC sports and primetime shows.

And Atari will appear in 13 major magazines across the country. All our advertising is designed to bring customers into your store. And once you've made an Atari customer, you'll see them again.



We've got the largest selection of video game cartridges on the market.

The Atari Video Computer System™ is what they come in for. But the Atari Game Program™ cartridges are what they come back for. Now Atari has 40 game cartridges including the brand new Championship Soccer™



Maze-Craze™, Video Checkers™ and Dodge 'Em™. Atari game cartridges offer everything from Football to our biggest seller, Space Invaders*. And now the game cartridges will sell even faster than before.



We're offering a \$5 rebate on selected game cartridges.

Starting November 15, 1980 through January 31, 1981, your customers can get a \$5 rebate when they buy any two of 20 selected game cartridges.

We expect a big response from this rebate offer. So stock up now. Just call your Atari representative for more information.

Our plan is to make Atari your biggest seller. We're already the leader in our field. We'd like to help you be the leader in yours.

For the Atari sales representative nearest you, call toll-free 800-538-8547.** In California call 800-672-1404. Or write to Atari, 1265 Borregas Avenue, Sunnyvale, California 94086.



©1980, Atari, Inc.

Atari reserves the right to make changes to products or programs without notice.

® A Warner Communications Company.

*Trademark of Taito America Corporation **Excluding Hawaii & Alaska.

Circle No. 2 on product card

Brunswick adds home pinball

SKOKIE, Ill.—The Consumer Division of Brunswick Corporation, the first company to introduce home pinball in 1976, has added another top-of-the-line pinball machine to its existing line of home games.

The new Circus home pinball machine is said to be of full commercial size and quality and is available in a red circus wagon or attractive woodgrain style cabinet. It has many of the professional pinball features found in arcade-quality machines, including solid state electronics and electronic memory scoring that keeps track of up to four players for each five-ball game.

A musical playfield with a multitude of flashing lights has adjustable volume control and plays 19 circus tunes and tones—at various bonus levels, when the game is tilted, and at the start and end of the game. The playfield also features double and triple scoring modes and a high-action scoring area where thumper bumper and jet kickers rack up points extremely fast.



Brunswick's Circus pinball game.

An automatic ball feed saves time by getting the ball into play quickly. Independent flippers offer maximum ball control and a six-digit display allows scores to skyrocket into the hundreds of thousands.

The Circus is backed by an exclusive warranty and service program, a strong traffic-building national advertising campaign, and point-of-sale promotions, says the company.

Circus pinball game—Circle No. 221 on product card

Vanity Fair markets handheld pinball

MELVILLE, N.Y.—Vanity Fair Industries introduces an electronic Pinball game and a space battle game.

Electronic Pinball, for hand-

the player's ability to ward off alien invaders.

Vanity Fair also continues to offer Computer Bowling, whose features include an automatic scoring system with digital read-outs and flashing lights.

Electronic Pinball—Circle No. 193 on product card

Electron Blaster—Circle No. 194
Computer Bowling—Circle No. 195



Vanity Fair's pinball game.

held or tabletop play, features the sounds, actions and lights of a real pinball machine, according to the company.

Electron Blaster challenges

GAF to advertise

NEW YORK—GAF Corporation is kicking off a \$1 million TV advertising campaign in mid-September for its musical electronic game Melody Madness.

The TV campaign will involve "sizeable" network and spot coverage on adult and children's programming, says the company. According to GAF, adult target audiences will receive more than 300 million impressions and children more than 500 million impressions.

Toytronics introduces diverse line of electronic games, toys

NEW YORK—A full line of electronic games and toys is being introduced by Toytronics.

The line includes a broad selection of sports games, guns and rifles, target sets, miscellaneous games, a sophisticated chess game and electronic bowling.

Walter Haskamp is managing director of the company, and the line is being represented exclusively in the United States by the Henry Katz Organization, 200 Fifth Avenue.

In the sports game category, Kick-N-Pass allows for pass, kick and run action, while Football has computer-controlled defenders, four-way quarterback movement with a retreat feature, kick and run action and two skill levels.

Baseball can be played by one or two persons.

Soccer offers forward, backward, left and right keys, two playing speeds and four electronic sound effects. Another game, Full Field Soccer, is for one or two players.

Also available are a one-player handheld Basketball game with two playing speeds; one-player Multi-Sports, which plays Basketball, Football, Soccer and Hockey, and a 3 in 1 game that plays Soccer, Basketball and Hockey.

Other sports-related items are Racetrack, in which the player tries to complete four laps within 99 seconds while avoiding collisions, and Table Tennis for one or two players.

Spaceship Pinball is a hand-



Toytronics' Gotcha! game.

held game for one or two players.

Gotcha!, a follow-the-leader game, is available in both tabletop and handheld versions. The item plays four different games and is also an electronic organ.

In target games, Stellar War is a dual competition game using photo-electronic targets.

The UFO Photo-Electronic Dual Control Saucer and Photo-Electronic Saucer offer moving targets controlled by photon-ray pistols.

In Brain Wave, another handheld game, players try to discover the four-digit number established by the computer in the right order.

Sports games—Circle No. 185 on product card

Chess game—Circle No. 186

Electronic Bowling—Circle No. 187

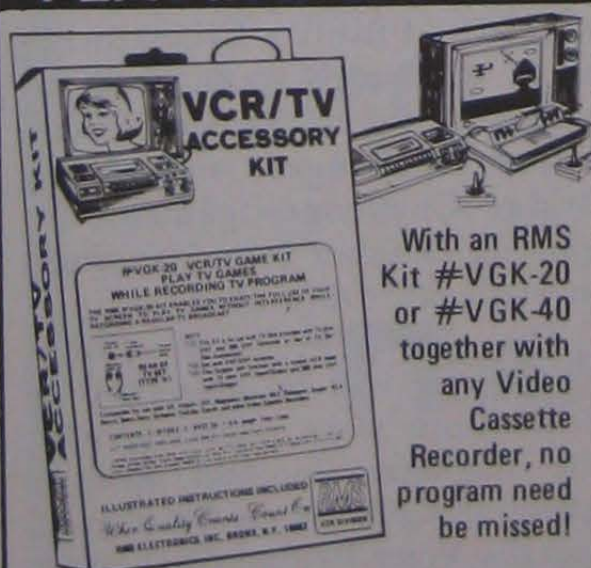
Spaceship Pinball—Circle No. 188

Gotcha!—Circle No. 189

Target games and rifles—Circle No. 190

Brain Wave—Circle No. 191

TV SET TIED UP PLAYING GAMES?



With an RMS Kit #VGK-20 or #VGK-40 together with any Video Cassette Recorder, no program need be missed!

Write for literature on all RMS Kits and VCR Accessories that expand use of a VCR...

- RMS has Kits to...
- Record Video Game Tournaments!
- Connect 2 VCR's to dub and re-record tapes... including BETA to VHS!
- Connect VCR to 1, 2, 3, or 4 TV Sets!
- Connect VCR to Video Projection Systems!
- Connect VCR to Video Disc Player!
- Connect VCR to Audio-Video Components!
- Record Cable TV!

RMS ELECTRONICS, INC.
50 ANTIN PLACE, BRONX, N.Y., 10462
TEL. (212) 892-6700

Circle No. 12 on product card

BEST GAMES FOR THE MONEY FIGHT INFLATION WITH THE UNIQUE SPACE ARCADE



MAXTRON
STOCK NO. EG14

3 GAMES
2 OR 1 PLAYER

FEATURES

- FIRING, DODGING AND TRACKING GAMES
- 5 x 7 (35 DOTS) LED MATRIX DISPLAY
- LED SCORE KEEPING
- AUTHENTIC SOUND
- TWO OR ONE PLAYER
- TWO PLAYING SPEEDS
- FULLY WARRANTED

7807A Telegraph Rd.,
Montebello, CA 90640

Circle No. 11 on product card

General Electric sets consumer rebate for rechargeable batteries

GAINESVILLE, Fla. — General Electric's Battery Business Department announces a major consumer rebate program to promote the use of its line of rechargeable nickel-cadmium batteries in battery-operated electronic products such as electronic games and toys.

According to Jeffrey Boyd, manager of Aftermarket Programs, the three-part program is designed to help manufacturers, retailers and consumers better understand the performance advantages and savings on GE rechargeable batteries in today's battery-operated products.

GE is offering manufacturers of battery-operated products free in-pack stuffers, which include a \$2 consumer rebate on its charger products. Also included is a free on-pack sticker highlighting the offer.

RETAIL PROGRAM

All retailers stocking GE battery products are offered a complete retail program including point-of-sale materials, merchandising displays, advertising allowances and publicity.

GE will advertise the advantages of rechargeable batteries, the new rebate program, and the electronic products containing the rebates in the Fall, and through the first

quarter of 1981.

Boyd says, "Many manufacturers are getting on board. We will have \$2.00 rebate coupons in selected products by Mattel, Fundimensions, Braun, Argus, Tiger Electronics, Vanity Fair, to name a few. GE expects over 12 million coupons to be distributed in 1980."

The battery-operated product manufacturer puts the GE coupon in his product, and a sticker highlighting the offer on the outside. The coupon contains information on GE batteries, and includes a \$2 rebate coupon good with the purchase of a GE battery charger. The charger lists for \$3.98, so the consumer's final cost is only \$1.98. The consumer must mail in the rebate coupon, along with proof of purchase of a GE charger, for a \$2 rebate check from General Electric.

"We have successfully used rebates placed in our battery products in the past," says Boyd. "This is the first time we are offering the rebates for use in another manufacturer's battery-operated products. We think it's an efficient way to get our message to the right prospect, a consumer who has just purchased a product that can really benefit from rechargeables."

Mego Corporation introduces selection of four palm-sized electronic games

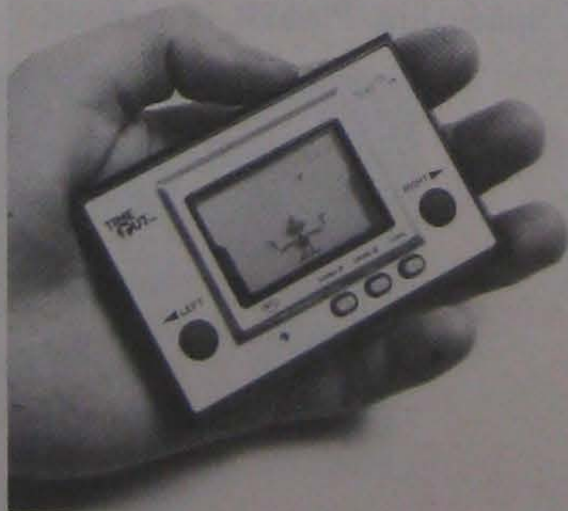
NEW YORK — Time Out is a new group of four palm-sized multi-games from Mego Corporation, each featuring a built-in, continuous clock.

Each game also has realistic on-screen movement and two different skill variations.

In Toss-Up, a juggler appears on the screen and the player tries to help him juggle two balls in the air. Game B is played at a much faster pace, with the juggler keeping three balls aloft. When the ball is dropped, the word "crush" appears and the final score becomes visible.

In The Exterminator, moles climb up and try to sneak through any of four holes. The player tries to swat them, but if three moles sneak through, the game's over. Game B is played at a faster pace, with the moles given an additional escape hole.

Five jumpers leap from a burning building simultaneously in Fireman Fireman, and the player tries to catch them in a stretcher and get them to a waiting ambulance. Each time a jumper falls he appears as an



Toss-Up is one of four palm-sized Time Out games offered by Mego Corporation.

angel. When three angels appear, the game's over. In Game B, up to nine people jump from the building at once.

Flag Man is a fast-paced response game. The Flag Man creates a random number sequence, and the player must press the appropriate buttons to match the sequence within five seconds on the built-in timer. Game B allows only 2½ seconds for a response.

Time Out—Circle No. 192 on product card



Point-of-sale materials, stickers and advertisements for GE's rechargeable battery rebate offer.

Coleco, Ray-O-Vac join in promo

HARTFORD, Conn. — A special TV promotion by Coleco Industries will offer consumers \$10 in savings, upon proof of purchase of a Coleco electronic game and two Ray-O-Vac batteries.

Coleco says it will spend more than \$1 million to mount the promotion, called "Power Play Giveaway." It is scheduled to run for two months, beginning September 15th.

The \$10 "early buy" savings offer aims to stimulate product movement "well before the Christmas buying season begins," says Coleco's Phil Cohen.

Network and spot TV ads to be run will show all of Coleco's electronic products and all Ray-O-Vac alkaline batteries.

To obtain the \$10 saving,

Fidelity to promote games on television

MIAMI — Fidelity Electronics plans to launch a national ad campaign for its Sensory Voice Chess Challenger and Voice Bridge Challenger games, beginning October 5 and running through mid-December.

The Sensory Voice Chess Challenger will be promoted in prime-time slots, starting with the National Football League game on CBS/TV on October 5, and the Voice Bridge Challenger will be advertised during daytime viewing hours. Among the programs scheduled to carry the commercials are "60 Minutes," "Archie Bunker's Place," "That's Incredible," "20-20," "Good Morning, America," "Thursday Night Football" and a number of Sunday NFL football game telecasts.

Major magazines slated to carry Fidelity ads in their December issues will include Playboy, People and Omni.

consumers will be required to provide proof of purchase of a Coleco electronic game and two Ray-O-Vac batteries and complete and mail a redemption coupon. If these terms are carried out, the consumer will receive a \$5 check plus five certificates redeemable for Ray-O-Vac batteries.

For the promotion, point-of-sale counter cards and "take one" coupon pads are being provided to retailers by both Coleco and Ray-O-Vac.

Ward to handle Ohio Scientific

AURORA, Oh. — Montgomery Ward and Ohio Scientific recently reached an agreement whereby the mass merchandise chain will sell Ohio Scientific computers in special computer shops.

The announcement came at the conclusion of a one-year test in the Minneapolis area. The end result of the test, according to Ohio Scientific, showed that the computer shops outperformed the store average five to one per square foot selling personal computers only. The successful performance of the test market generated an interest in both organizations to sell small business systems as well as personal computers.

Both companies project that computer shops will be in operation in 100 Montgomery Ward stores in the near future. Initially, 19 store sites have been selected and are planned to be operational by the end of the summer.

The computer shops will market the Challenger 1P and Challenger 4P microcomputers, along with a personal business system.

Home computer business is here and growing rapidly

By SY LIPPER

President
APF Electronics, Inc.

The benefits resulting from the U.S. Space Program have been reflected in many new products which have changed the way we do things in our everyday life. None, however, has had more impact than what we are beginning to witness in the emergence of the home computer.

We are all familiar with how the computer has enabled business to speed up its ability to accumulate information, produce reports, help control costs, reduce paperwork, and increase efficiency. What it has done for business at costs which ran upwards of millions of dollars per system it has now started to do for the consumer at home for as little as \$600.

The computer—not of the future but available today—that costs under \$600 can keep track of everyday costs so that a meaningful budget can be kept; can teach reading, typing, math, and most importantly, logic. The home computer system is truly a fountain from which can flow a world of information and knowledge right into our home just for the asking.

This new marvel also gives us the ability to play games equal to the quality of that which we have all enjoyed in the arcades. The individual user, as he or she becomes more familiar with the computer, will find that it can be controlled to deliver information that was only dreamt of and desired, but not readily available at home until now.

AFFECTS DAILY LIVES

Let's look at how the computer is affecting our lives on a daily basis and how we, the consumer, have a greater familiarity with this space-age marvel than most of us realize.

All our credit card purchases, bills, credits, etc. are fully computerized. When we make a purchase, we watch the salesperson type in our account number, verifying through a computer our credit limits. At an airline we watch someone check our reservation and give us our seat assignment, using a computer.

When many people discuss home computers, they ask, "How can I learn to use one; isn't this going to be difficult?" Do these people truly feel that they have any less ability than the clerical personnel at an airline or sales counter? And yet, some apprehension still persists.

Many of us are already operating computer systems without realizing it. When we put our credit card in a banking machine, type in the code numbers, and receive money which is charged to our checking or savings account; or when we inform the machine by pushing buttons to pay certain bills, or transfer money between different bank accounts, we have operated a computer. When we

push buttons to set heat, time, etc. on dishwashers, microwave ovens and dryers, we are actually operating a type of computer system. These latter systems are not any easier or harder to use than the present simple home computer.

In order to begin using a home computer, only a few words need to be understood. One is the name for the type of language that the computer understands,

such as Basic, Cobol, Pascal.

Basic is the most commonly used language. Second, and probably most important, is the word "CLOAD" which interprets whether a cartridge or cassette is loaded into the computer. The beginner, trying to learn the computer, will want a machine that loads the programs off a cassette. Once the user has typed in that simple

Continued on Page 36

The NEW CONIC®

F.O.B. Hong Kong Factory Direct Programs with U.S.A. Afterservice

Hand/Held Games, Cassettes, Radios,
Stereos, Clock Radios, Portable Radios,
Novelties.

The NEW CONIC®

Distributed exclusively by

JUSTIN PRODUCTS, Inc.

307 Fifth Avenue New York, N.Y. 10016

(212) 563-2666

U.S.A. inventory programs also available.
See us at Booth #1603

Computer business is here

Continued from Page 35

word, the computer's screen then flashes instructions on how to complete the loading of the information.

Once the program is in the machine, the computer will continue to ask questions which the operator can answer. Through these answers titles, headings and subtitles can be changed, thereby tailoring the program to individual needs. The operator can store and save all accumulated information and, as he or she gets more familiar with the machine and its operation, can, through teaching programs operated off the computer, learn how to write individual programs.

Let's look at a few very specific uses of the computer.

A Student Desiring to Learn Math

Simple programs can teach even a first grader elementary mathematics, with more extensive programs available to teach advanced subjects such as algebra, trigonometry, and calculus, where questions can be asked by the computer and the operator can respond. Students can be scored not only on accuracy, but on ability to respond quickly.

Learning to Type

Typing programs are available which not only teach the user how to type (where to place the fingers), but can also measure that individual user's speed so that questions can be given more rapidly as the user becomes more capable. The machine, having a time-response mode, can even help capable typists increase their speed.

Preparing Budgets

For those individuals on budgets, the computer makes it rather simple to set the budget and to keep budget records. These programs easily show how much you are operating over or under budget, either on a weekly or monthly basis. Thereby you can readily interpret where the problems are in your basic budget. This is little different than the cash flow calculations done by major corporations.

Tax Records

The home owner must keep accurate tax records on the cost of his home for tax purposes, so that upon its sale proper gains or losses can be reported. These records can be 20 to 30 years old. There is no simpler way to keep them in a readily available fashion than on a computer.

Wouldn't it be a pleasure to pull the records needed at year-end for basic tax purposes by hitting a button on a computer, which can display all the

information required to fill out those tax forms? With the home computer, record keeping and number keeping are all simple matters. If a hard copy of the information is desired, a printer can be added.

Obviously, the addition of any peripheral is an added cost. If someone desires to be able to load a program much more rapidly than the 45 seconds needed by our Imagination Machine, for example, he can spend an additional \$300 to load programs in under one second by the use of a floppy disk.

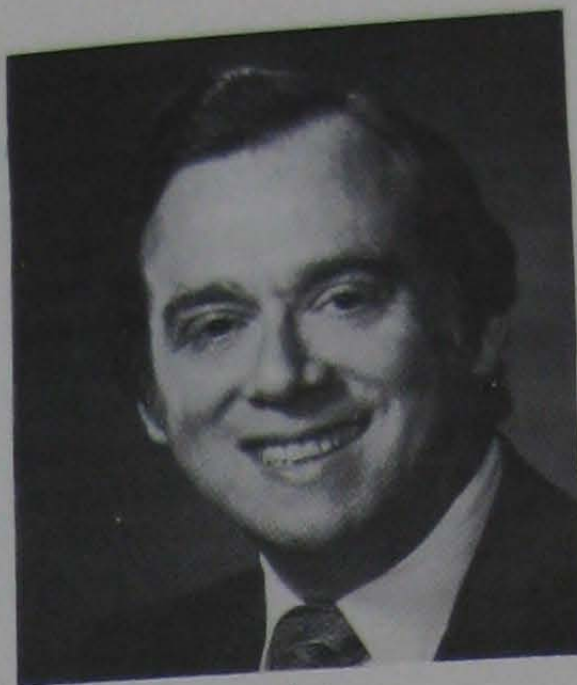
Another piece of peripheral equipment, the Telephone Modem, enables the computer owner, via the use of regular telephone, to call into what is known as a data bank. The data bank is nothing more than a very large computer system which has available fantastic amounts of information stored within its memory. With the use of the Modem, today's computer operator can already obtain stock and commodity reports, and news as it comes across the news wires. The Modem can also be used to make airline reservations, get information on flight schedules, etc. Many colleges, universities, and business organizations are making their data banks available to students and businessmen, so that information needed to write business and school reports has become very accessible.

BRINGS FUN ACTIVITIES

On the fun side, personal computers can bring the amusement arcade into the home. Home computers can be used to draw pictures in a rainbow of colors and can also help the user compose music. These activities are now possible at home, at costs running from under \$600.

What does the future hold? Well, the same machine using some of the aforementioned hookups will enable the user, in the near future, to connect to computers at local department stores, catalog houses, mass merchandisers and banking institutions. Computer owners will be able to make a purchase, have their accounts charged, transfer funds from one account to another, check on their current bank balances, pay all their bills, have a permanent record of these transactions and do it all without ever leaving home—without having to wait on lines and run from bank to bank or store to store.

This far-reaching revolution in lifestyle is already under way



Sy Lipper

slowly but impressively. At the end of 1979 there were 500,000 personal computers in use. By the end of 1980 there will be over 1 million in use, with 600,000 more to be produced and sold this year. This means that in 1980 alone more personal computers will be sold than in all the previous years combined.

Personal computer sales by the end of 1982 will reach \$242 billion and \$5 billion by the end of 1985.

PROVIDES BIG BUSINESS

That is big business—a business that no retailer can afford to pass up. And the only way to take advantage of that future business is to enter the field now because the business is here today; it is profitable and growing rapidly.

Statistics show that there is a segment of the U.S. population estimated at between one and two million people who will buy an innovative product, whether it be a TV recorder or a home computer, within one to three years after market introduction at a reasonable cost, and this number of buyers increases as prices are lowered.

In addition, an estimated one million employed professionals, two million scientists and engineers and educational institutions should use, for starters at least, one and one half million more units.

Student users themselves should total into the millions. This market alone is ripe for immediate sales. Students are not only familiar with computers, but welcome them and the challenges and opportunities they bring. Many schools and colleges have voluntary, or mandatory, computer courses.

Frankly, most retailers are not taking advantage of current demand. By the end of 1979, throughout the United States there were only a little more than 8,000 retail outlets where a home computer could be purchased. That small group of retailers captured all the sales and profited from this rapidly

growing market.

At year's end, every one of these outlets was in an *oversold condition*, and reportedly all were in a backorder situation.

Certainly, this proves the existence of a larger, growing market and a need for more retailers as production expands steadily through the 1980s.

For these obvious reasons, a smart merchandiser should direct his company into the personal computer business now, to take advantage of timing which is optimum today for the rest of the decade.

The next step the astute merchandiser should take is to make a commitment and establish a computer center within his store. This center should be staffed by well-trained people, competent enough to assist the interested consumer.

Many of these salespeople are already working for the store. Others are readily obtainable through high schools and colleges. Some computers can easily be learned in a few hours. Therefore, competent salespeople who have sold audio components, or other electronic equipment, can be taught how to sell computers with no difficulty.

Salary incentive plans can be developed for these salespeople, which would create a desire not only to sell the computer hardware, but also accompanying software and peripherals.

BLUEPRINT FOR RETAILER

The retailer should have available approximately two to three different makes of computers, with appropriate software and back-up literature. He should then promote to his consumer market the fact that his outlet is a complete computer center, where group classes and sessions are available for hands-on demonstrations on certain days.

Properly trained salespeople can visit the local high school, college, university, or business office complex, which would welcome a personal computer demonstrator warmly.

Properly set up and handled, a computer department can start up with a gross value of \$25,000 per month and build quickly to over \$100,000 per month. Many such centers have averaged well over that gross per month, or over \$1½ million a year. This is because computers are not only a profitable business, but are also helpful to the community.

The computer world of 2001 has already started. The 1980s will bring a tidal wave of growth in the use of the personal computer. Shouldn't you be getting involved now in this extraordinary merchandise area?

Video Software

Paramount Home Video releases new titles for VCR distribution

HOLLYWOOD — Paramount Home Video has licensed several new titles from Paramount Pictures Corporation for videocassette distribution. The new titles include seven motion pictures and ten popular Star Trek television episodes.

The new feature film releases are "North Dallas Forty," "Escape From Alcatraz," "Prophecy," "Players," "Malicious," "Mandingo," and "Emmanuelle, The Joys of a Woman."

The Star Trek entries include such episodes as "The Menagerie, Parts I and II," "The City on the Edge of Forever," "The Trouble With Tribbles," "Amok Time," and "Mirror, Mirror." The ten Star Trek episodes are

paired on five specially packaged videocassettes, Volumes I through V.

These newest entries bring Paramount Home Video's lineup to 64, all hand picked from Paramount Pictures' extensive library of feature films.

Seven months old, Paramount Home Video recently was awarded three "Golden Videocassettes" from ITA, the audio/visual trade's largest international association. The award is made for a pre-recorded program whose audited sales have exceeded \$1 million in retail list price value. Paramount's winning videocassettes were "Saturday Night Fever," "The Godfather" and "The Godfather, Part II."

Sales of Paramount Home Video products are handled through a distributor network comprised of 10 independent distributors. Each distributor services specific territories nationwide.

Paramount videocassettes—Circle No. 168 on product card

MCA now offers 32 VHS/Beta cassettes

NEW YORK—MCA Videocassette, Inc. has released eight new titles, including recent film hits, classic motion pictures, concerts and other programs.

The company now has a total of 32 titles in release in these various entertainment areas, in both VHS and Beta formats.

Leading the new releases is a special "double feature," described as a new concept in videocassette marketing. The "double feature" combines the recent hit film "Coal Miner's Daughter," with Sissy Spacek starring in the biography of country music star Loretta Lynn, with a concert by the country music queen herself, available exclusively on videocassette.

Three classic films newly released by MCA are the manic Marx Brothers comedy "Duck Soup" and two films by the late director Alfred Hitchcock. They are "The Birds" with Rod Taylor and Tippi Hedren, and "Frenzy."

Also offered are four original entertainment properties: concerts by Lou Rawls, Bernadette Peters, Merle Haggard and a Mel Torme-Della Reese concert.

MCA videocassettes—Circle No. 166 on product card



Checkers, one of four new video games from Atari.

Atari adds four games, announces major promotion

SUNNYVALE, Calif. — Atari adds four home video games to its current list of 36 titles.

The company also announces plans to sponsor the first Space Invaders/Breakout National Championships. The contest will begin in the fall with five regional championships and end with a national finals in San Francisco.

One of the new home video games is Championship Soccer, which features a "scrolling" playing field. This feature gives viewers the impression that they are "hovering above the playing area, following the ball and the teams as they travel up and down the field."

Maze Craze is a new multifaceted game that challenges two players to race through a maze, each chasing or avoiding "computer foes" which are also travelling through the maze. The game can increase in complexity in any of 256 ways.

Atari Video Checkers provides the player with nine levels of computer opposition, each one rising in game-skills.

In Dodge 'Em, a new drivers'

game, the player/driver tries to avoid colliding with an oncoming computer car while gaining points for completing laps. However, with each successful lap the game gets harder.

A new dealer support plan from Atari includes the firm's largest advertising campaign. National and local advertising, promotions, cooperative ads, display materials and an expanded public relations program are part of the campaign.

The ad campaign was slated to begin in early September with advertisements on primetime and major sports-event shows. Three different ads are involved, two for the VCS unit itself and one for the game cartridges.

Television advertising will be complemented by print ads in top consumer magazines.

Atari has also scheduled two special promotions for the third and fourth quarters. The Keyboard Savings promotion, which kicked off July 1 and will continue until September 30, gives a free set of keyboard controllers to consumers who buy A Game of Concentration

was held in Chicago.

Activision president Jim Levy notes that "programmable video game sales continue to grow at an annual 40 to 50 percent rate despite current economic unrest. In contrast to the uncertainty of sales of many other products, video game dealers find continued strength in game cartridgesales."

The company demonstrated its first four games, designed for

and Codebreaker.

From November 15 to January 15, 1981, Atari will offer \$5 rebate coupons on any two of 20 selected game cartridges. This promotion will be supplemented by direct-mailings to all registered VCS owners.

Posters for both the promotions are offered to dealers for display in their stores with Atari VCS cartridge catalogs.

The firm is also providing ready-made ad slicks, suggested radio announcements and suggested layouts for the dealer's own ads. In addition, a five percent co-op allowance will be available to dealers.

The new public relations program will be geared to draw attention and major news coverage to Atari's major role in electronic games. A highlight of the program will be the Space Invaders/Breakout National Championships.

Championship Soccer—Circle No. 172 on product card

Maze Craze—Circle No. 173

Video Checkers—Circle No. 174

Dodge 'Em—Circle No. 175

use with the Atari Video Computer System, at the summer CES. Shipments of Boxing, Fishing Derby, Checkers and Dragster commenced in July. The company also gave a sneak preview of two new titles scheduled to be released in December—Skiing and Bridge.

Activision video game cartridges—Circle No. 170 on product card

Activision reports sales double company expectations

SUNNYVALE, Calif. — Activision, independent designer and marketer of video game cartridges, says orders booked during the first 100 days since its new game cartridges were released are more than double the company's original projections.

The recently formed firm also reports that its planned 1980 production was "virtually sold out" during the recent Consumer Electronics Show which

Viacom releases how-to cassette featuring sleight-of-hand magic

NEW YORK—Viacom has released its second instructional program for the home video market titled "The Incredible Magic of Magic."

The new "how-to" series, which delves into the mysterious and fascinating world of close-up magic, is offered in VHS/Beta formats and will be distributed by Magnetic Video Corp.

The magic subject was selected because of its wide interest and acceptance to viewers of all ages, says Charles Tolep, Viacom's vice-president/merchandising and licensing. "We expect to generate much enthusiasm and the sales should prompt our production of a second series on magic."

The series consists of four

half-hour lessons to be released in two one-hour tapes. These lessons are hosted by master magician Bob Yorburg, who provides entertaining instruction in the skills and showmanship needed to practice close-up, sleight of hand magic.

Volume I features coin tricks and effects using everyday objects, while in Volume II Yorburg teams with Frank Garcia the "man with the million dollar hands," to offer simple explanations to various complicated tricks, as well as some dazzling card tricks.

Yorburg is presently the "Magic Burger King," and his televised personal appearances have involved close-up magic performed in small clubs to



Magic man Bob Yorburg.

large-scale illusions done in theaters and stadiums.

Viacom plans to support its latest "how-to" series with consumer advertising and in-store merchandising materials for retailers.

Magic of Magic cassettes—Circle No. 171 on product card

Disney studio enters home video market this month

BURBANK, Calif.—Walt Disney Productions, which has decided to enter the home video market in a major way, plans to release ten feature films and three collections of cartoon shorts in September.

Disney made an initial entry into the market earlier this year, renting titles in four test cities exclusively through Fotomat. The firm says it will now sell videocassettes of its classic films and cartoons through video departments and video specialty stores, while also expanding its rental distribution arrangement with Fotomat.

"We are in a unique position as a major source of family

entertainment for the home video market," states Jim Jimirro, who heads Disney's home video effort. "Disney has an incomparable library of family films, many of which have never been aired on television."

"Our experience with video-cassette rental is very encouraging," he adds. "Now we feel that the tremendous explosion in sales of players and prerecorded tapes dictates that we also respond to the growing number of consumers who want to acquire their own entertainment library."

Feature films being released by Disney are: "The Apple Dumpling Gang," "Bedknobs

and Broomsticks," "The Black Hole," "Davy Crockett-King of the Wild Frontier," "Escape to Witch Mountain," "The Love Bug," "The North Avenue Irregulars," "Hot Lead and Cold Feet," "Pete's Dragon" and "20,000 Leagues Under the Sea."

Three collections of cartoon shorts being offered are "On Vacation with Mickey Mouse and Friends," "At Home with Donald Duck" and "The Adventures of Chip 'n Dale."

Disney feature films—Circle No. 176 on product card

Disney cartoon shorts—Circle No. 177

WCI releases ten new major motion pictures

NEW YORK, N.Y.—WCI Home Video, a division of Warner Communications Inc., has released ten new major motion pictures on prerecorded cassettes, making a total of 32 films which the firm now has available in the marketplace.

The new titles are "A Star Is Born," "Exorcist II: The Heretic," "Bonnie & Clyde," "Bullitt," "The Candidate," "Dog Day Afternoon," "Executive Action," "Going In Style," "The Life of Brian," and "The Main Event."

Mort Fink, president of WCI Home Video, says that by the end of 1980 the company expects to have a total of 55 theatrical features in national release on video cassette, both in Beta and VHS formats.

The entire lineup of 32 titles is being offered by WCI Home

Video through WEA distribution. Both WCI Home Video and WEA state that all titles are now available to dealers on a 24- to 48-hour turnaround basis. "This was not previously possible because of the extraordinary demand for the initial releases, as evidenced by the fact that 12 of the top 40 titles in the U.S. home video market are from Warner Communications Inc.," says the firm.

The rapid turnaround time made possible through seven stocking warehouses is part of the WCI Home Video strategy, "which does not require dealers to carry heavy inventory of video cassettes," states the company. "Dealers can order on short notice, be assured of satisfying customers within 48 hours, receive merchandise freight prepaid, and benefit from net

Magnetic Video to distribute 250 United Artists titles

FARMINGTON HILLS, Mich.—Magnetic Video Corporation has entered into an agreement with Twentieth Century-Fox Film Corporation and United Artists Corporation to distribute 250 United Artists titles to the home video market for the first time.

The films come from the motion picture industry's "largest virtually untapped film library," says Magnetic Video, a Twentieth Century-Fox company.

The 250 United Artists films include 50 pre-1950s Warner Bros. pictures and movies yet to be produced, according to Andre Blay, Magnetic Video president. MVC will have exclusive U.S. and Canada videotape and non-exclusive video disc rights to the library under the long-term agreement.

Among the titles in the United Artists library are "Rocky," "Rocky II," "Fiddler on the Roof," all the "Pink Panther" movies and such Woody Allen hits as "Manhattan" and "Annie Hall."

A leading title in the Warner Bros. collection is the classic film "Casablanca," which will be converted to tapes and discs from original prints, notes Blay. The Warner Bros. films owned by United Artists include classic 1930s musicals and films starring Humphrey Bogart, James Cagney, and Bette Davis.

United Artists Film Library—Circle No. 196 on product card

RMS Electronics offers game kits

BRONX, N.Y.—RMS Electronics, Inc. is introducing VCR/TV Game Kits that allow the full use of a TV set for playing video games, while a regular TV program is being recorded on videotape at the same time.

According to the manufacturer, one kit is for 75 and 300 ohm TV sets, while another is for 300 ohm sets only.

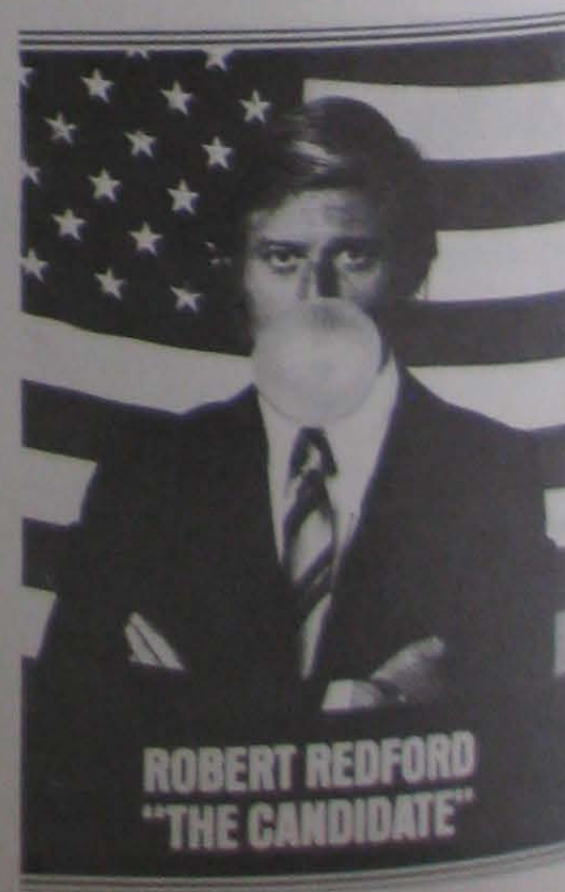
Two other separate kits allow for recording video game tournaments.

The kits are said to contain all required accessories, which are compatible for use with all video-cassette recorders and video games, plus illustrated instructions. The kits are packaged in peg-hang cartons.

VCR/TV Game Kits—Circle No. 197 on product card

60-day terms."

WCI videocassettes—Circle No. 167 on product card



Leisure Time Electronics

The Buyers' Guide To All Leisure Electronic Products

Recognizing the Needs of a New Marketplace

Introducing Leisure Time Electronics...a publication conceived in response to the public's overwhelming acceptance of the products offered by an entirely new industry—leisure electronics for family fun.

Market Coverage

With its first issue, Leisure Time Electronics established itself as the dominant source of information relating to the leisure electronics field. It is a semi-technical, merchandising publication serving the interests of every retail and wholesale buyer of such leisure electronic products as...handheld games, tabletop games, radio-control vehicles, video games, home pinball games, personal computers and other devices for the leisure-time home entertainment of children and adults.

A Readership That Means Business

Leisure Time Electronics' circulation is composed of more than 30,000 electronics buyers combined with a select group of 15,000 toy buyers from the circulation of TOY & HOBBY WORLD magazine...or a total readership of 45,000 buyers. In addition, over 35,000 copies of Leisure Time Electronics are distributed at the Consumer Electronics Shows held each year in June and January.

The Editorial Direction

To gain a full understanding of this brand new market, our editors have conducted extensive research to come up with answers to the following questions:

- ☐ Who are the consumers of leisure electronic products?
- ☐ How are these products identified for the consumers?
- ☐ What is the future of leisure electronic products as a hardgoods merchandise category?

Leisure Time Electronics has secured the answers to the above questions (and to many others as well) in order to present its readers with facts that will help them assemble and merchandise profitable assortments of leisure electronic products.

Grow With The Leader

Grow with the only publication that specializes in coverage of the leisure electronics industry. Whether you have one electronic item or dozens, your advertisement in Leisure Time Electronics will identify you as an important resource. Act now. Be among the first to tap this new and rapidly expanding market.

For advertising information write to:

Leisure Time Electronics

The Buyers' Guide to All Leisure Electronic Products
124 E. 40th St., New York, N.Y. 10016
or call (212) 953-0950

Provide R/C reliability

Microelectronics spawn programmable vehicle category

By BOB CITELLI

The introduction of microelectronic technology to the toy and hobby market has provided hobby manufacturers of radio control products with extra reliability for their cars, while spawning an entirely new category for toy producers—programmable vehicles.

As the industry becomes more secure in its use of this science, end products become more precise, more advanced, and more like real cars.

According to Joel Silverman, applications manager at Exar Integrated Systems (a Sunnyvale, California-based chip producer), "Cars can offer any feature anyone wants" when using microcomputers. "You can put 10 features on the vehicle, but there is a cost factor," Silverman points out. "Therefore, you have to be able to justify the cost."

Silverman contends that "We can juggle functions on the chip to whatever specifications manufacturers want. We can even come out with a few grades on the same circuit." The benefit of this procedure, he explains, is that it allows manufacturers to offer a range of vehicles, all capable of different functions yet utilizing the same chip.

Silverman notes that his firm engages in "involved discussions" with manufacturers, centering on what they can use, what they can pay, and "what we can integrate at the least cost to them while still leaving room for improvement. We're pretty involved even before the actual design of the product begins."

NEW PRODUCT RANGE

In addition to greater reliability, Silverman believes microelectronic technology will create "a new range in the hobby market that is above the toy level in radio control, but below the level of precision found in the true hobbyist vehicles."

He has noticed that the size of R/C cars is becoming smaller with the use of integrated circuits, but doubts that the market might be headed indoors through miniaturization. "Radio control is not really set up as an indoor hobby" and would suffer greatly on a track, he believes. "The driver would lose a lot of freedom on an



Above left is Vanity Fair's BMW R/C vehicle (Circle No. 219) and above right is Mattel's Memory Machine (Circle No. 220).

indoor track. His ability to turn, his speed and other features would be diminished."

Nevertheless, toy and hobby manufacturers are looking into miniaturization. Martin Morrow, product manager at Mattel, says his firm is investigating both slot and slotless applications.

Mattel was the first to successfully merge two types of vehicles, R/C and programmable, with its 1980 entry the Memory Machine. This vehicle is controlled by the driver through his radio device. But, with the push of a button, The Memory Machine records the path of the car and repeats it.

MORE FUTURE APPLICATIONS

Morrow believes the future will see "a miniaturized area in a playset/slotless situation with LEDs." In the higher priced R/C area, Morrow foresees the advent of opening doors, working lights and horns.

Gene Murtha, director of product planning at Fundimensions, reports that his firm's electronic programmable car the Brain Z was greeted with "a very strong reception" when it was unveiled earlier this year. He believes "the direction Mattel took with its Memory Machine is a good application of that technology." However, he predicts that programmability will go beyond vehicles and into other toy categories. "There are a lot of other applications of programmability that are a lot of fun to play with," he says.

Murtha feels the average consumer of the Brain Z is between 8 and 12 years of age. With a \$39 ticket, placement of the product in retail outlets varies, he says. "The trouble is retailers haven't decided where program-

mable cars belong. Right now, they seem to be going with radio control."

A corporate spokesman from LaTrax, feels "R/C cars will take the path of the calculator at some time in the near future. As chips become more universal, product prices will come down."

Demand is for "more inexpensive product," he maintains. "The consumer wants off-the-shelf, ready-to-run cars."

Manufacturers throughout the industry bemoan the fact that chips are hard to come by. Some, like Fundimensions, have returned home from shows only to learn that the chips they thought were available were no longer going to be delivered. The result, of course, has been the withdrawal of product from the mar-

ket until a much later date.

But assistant sales manager Larry Loo of Shinsei reports his firm hasn't been affected by tight chip supply. He discloses that Shinsei uses ICs from NEC (Nippon Electric), one of many Japanese firms currently moving into the U.S. market in force. "We don't have any problem securing chips," says Loo.

USE FOREIGN CHIPS

He disputes claims that foreign chips are not as good as domestic versions. Calculators and digital watches both use chips from the Orient, he points out. "These are of proven quality and many American companies are now going overseas."

While such foreign sources are presently limited in their production capabilities, Loo believes they offer a potential.

He, and others, believe that foreign sources, combined with new initiatives by domestic chip suppliers, will make it possible for the industry's chip demand to be met by as early as 1981 and no later than 1982.

In the meantime, manufacturers of R/C and programmable cars, like other leisure time electronics producers, continue their own research and developmental programs, searching for new applications of today's electronic wizardry.

Rep News

Activision, Inc., designers and manufacturers of video game cartridges, has appointed 16 independent sales representative organizations with 30 local offices throughout the country.

The representatives will aim to establish national distribution for the firm's new video game cartridges, which are designed for use in the Atari Video Computer System.

The new representatives and their territories are:

Lin Cooper & Assoc., Seattle, Pacific northwest; Wall Center Co., San Carlos, Cal., northern California and northern Nevada; Cali-West, Inc., Santa Fe Springs, Cal., southern California and southern Nevada; Steventon, Bearden & Gibson, Inc., Denver and Salt Lake City, Rocky Mountain states; Consumer Marketing Associates, Chicago, northern Illinois, eastern Wisconsin, northern Indiana; Mr. Sales, Cincinnati, Cleveland and Louisville, for Ohio and Kentucky.

Also: Len Nelson Sales, Inc., Farmington, Mich., Spring Lake,

Mich. and Indianapolis for Michigan and Indiana; Lawrence J. Rogoff, Inc., Pittsburgh, western Pennsylvania and West Virginia; Adams & Adair, Inc., Cheltenham, Pa. and Baltimore for eastern Pennsylvania, Delaware, southern New Jersey, Maryland, District of Columbia and Virginia; Minutemen Sales, Inc., South Weymouth, Mass., New England; Jaymar Marketing, Inc., New York City, New York metropolitan area; Nackman, Broad, Van & Co., St. Louis, Kansas City and Omaha, for central midwest.

Also named reps were: Aylward Corporation, Minneapolis, North and South Dakota, Minnesota and western Wisconsin; Ron Chapman & Co., Atlanta for Georgia, Alabama, Mississippi, Tennessee, North and South Carolina; Century Sales, Dallas, New Orleans, Moore, Okla., Shreveport, Houston, Austin, and Lubbock for Texas; Oklahoma, Arkansas and Louisiana, and Richard J. Bandini, Fort Lauderdale, Florida.



Two new programmable vehicles: Fundimensions' Brain Z (Circle No. 181) and Entex' Chuck Truck (Circle No. 182).

Polaroid introduces wafer-thin battery for commercial use

CAMBRIDGE, Mass. — Polaroid Corporation has introduced an improved version of a wafer-thin, six-volt battery for commercial applications.

Polapulse, a unitized planar battery, is said to be ideal for applications that require "repeated short pulses of high energy drain." Its thin, flat format "permits compact product design, making it a good energy source for electronic toys and games, cassette recorders, and other electronic applications," says the company.

Thin and lightweight, the Polapulse P100 battery was originally designed and manufactured for the Polaroid SX-70 photographic film pack. It is shaped like a playing card, but at six volts "produces the voltage of substantially heavier

conventional batteries or battery combinations," according to Polaroid.

The firm has made more than 300 million Polapulse batteries since 1974, incorporating a battery into each SX-70 film pack to power the electronic and mechanical functions of three of its cameras.

"Highly reliable and stable," the Polapulse P100 battery is said to have an anticipated shelf-life of three years. It weighs less than one ounce, measures 3.37 by 3.06 inches and is only 0.180 inches thick. Two contacts are located on the same side of the battery for ease of insertion and device design.

Polaroid says its Commercial Battery Division now has Polapulse P100 batteries available for original equipment manu-

Votrax offers speech chip with unlimited words

DETROIT — Votrax, a division of Federal Screw Works, has introduced a speech synthesis chip with "unlimited" vocabulary, which can be incorporated in such products as low-powered toys, games and calculators.

Delivery of the "talking chip" is scheduled for the fourth quarter, according to Alfred R. Lubinski, general manager of Votrax.

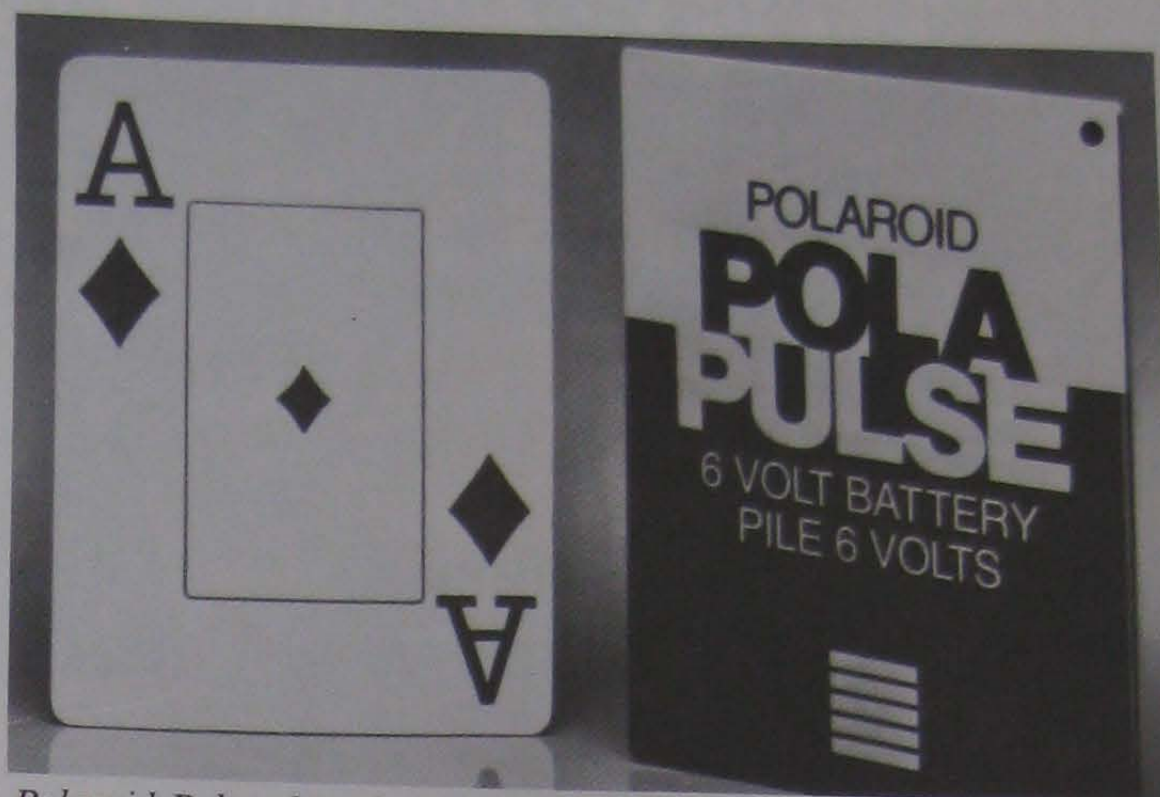
The 22-pin CMOS (Complementary Metal Oxide Semiconductor) silicon chip is said to generate an unlimited vocabulary with the low data rate of 70-100 bits per second. The high speech-rate capability and low memory requirement result from the chip's use of phoneme-based speech rather than recon-

stituted human speech.

The SC-01 chip simulates the human voice by combining electronic phonemes, called the "building blocks of words," notes Arthur E. Velthoven, Votrax' vice president of engineering. In contrast, he points out, other existing synthesizer chips are limited to modeling the human vocal tract through a word or phrase reconstitution scheme.

Words and phrases are generated with the Votrax chip through a series of electronic commands that can produce up to 64 phonemes. The chip also allows for controlling the degrees of inflection that contribute to the meaning of each word and phrase.

Vendors



Polaroid Polapulse six-volt battery for commercial applications.

facturers. To help design engineers determine how the batteries can be incorporated into their company products, a Polapulse Design Kit is being offered for \$15. It includes five batteries and a molded battery holder with external connections.

Additional design assistance is available from Polaroid applications engineers.

Polapulse P100 battery—Circle No. 156 on product card
Polapulse design kit—Circle No. 157

Tecknit unveils LCD connectors

CRANFORD, N.J. — Tecknit offers dot matrix LCD Zebra Connectors.

Many LCD dot matrix displays have contact pads on the underside of the front plane facing the printed circuit board and on top of the back plane facing away from the printed circuit board. Connection to the front plane is made by sandwiching the self-supporting Zebra connector between the display and the printed circuit board. The Zebra Step is used to connect the leads on the back plane at one level with the printed circuit board at another level.

Speech Chip—Circle No. 222 on product card

Zebra Connectors—Circle No. 165 on product card

People

MCA Videocassette, Inc., New York, the new home entertainment software subsidiary of MCA/Universal, names several persons to top-level executive posts.

Gene F. Giaquinto is appointed president of MCA Videocassette. He continues as president of Universal Pay Television and director of non-theatrical sales for Universal.

Giaquinto is a 21-year veteran at Universal/MCA, having served in various capacities in finance, administration and sales. He is a former special assistant to the president of Universal Studios.

Theodore J. Schmitt is named director of feature acquisition. He has been with MCA/Universal for almost 10 years, and will continue to hold the position of national sales manager for Universal Pay Television.

Al Bergamo is president of MCA Distributing Corporation, which has begun distributing MCA videocassettes and video discs, along with MCA Records and their associated labels.

Gary J. Bordzuk takes on the responsibilities of director of advertising for MCA Videocassettes, while continuing as manager of advertising and promotion for the Non-Theatrical

Division of Universal.

MCA Videocassette plans to relocate to MCA's Universal Studios offices in Los Angeles in September.

Mattel Electronics, Hawthorne, Calif., vice president, marketing (Video Products).

Kissell joins Mattel Electronics from the Stanford Research Institute in Palo Alto, California where she was director of the Management Consultant Department. Prior to that post she had worked with Lever Brothers.

National Semiconductor, Sunnyvale, Calif., names Jim Diller

vice president, consumer products and Max Stanton vice president, Asia/Pacific operations.

Diller joined National in 1969 as managing director of Europe operations and has been general manager of consumer products since April, 1979. He will report to Fred B. Bialek, vice president, general manager, systems and consumer products.

Stanton joined National in 1967, and was most recently director of Asia/Pacific manufacturing operations. He reports to C. Edward Pausa, vice president, international manufacturing.

Anticipates forthcoming electronic technologies

'New breed' of designer links ideas with cost efficiency

By JAY SMITH III
President
Smith Engineering

The wave of new consumer electronic products not only has created a whole new industry for manufacturers and retailers, it has created a new breed of product designer as well.

These new designers come from a variety of backgrounds because there is little formal education available which would prepare a "new-breed" designer for his work. Their younger years, however, often give an indication of what they have become. Many may have been entrants in college paper airplane contests; winners of those electronic mouse/maze contests at electronic trade shows or exhibitors at high school science fairs. They may have started their working careers as a creative engineer or designer in an aerospace company, then gotten bored with the lack of excitement. They may have worked on military electronic programs, eventually becoming a casualty in the war against "Mil Spec Myopia."

STRONG SOFTWARE ACTIVITY

Whatever his background, the new-breed designer can magically link the needs of a product idea with the technical background to make that idea happen—and happen in its most exciting and economical form.

In this new decade of the 80s, new-breed designers will be most evident in the area of software, because of software's increasing importance in consumer electronics.

Software is the key to the functioning of the microprocessor, which in turn is the key building block for electronic products.

Perhaps one of the best examples of highly complex software is the anticipated advance of artificial intelligence. There is already a trend toward wider use of interactive devices that think and communicate rapidly and effectively.

It is difficult to determine the complexity level at which a computer is said to possess artificial intelligence, although one may say that electronic



Jay Smith III

games are a rudimentary form of it. Current games should lead to the development of electronic playmates that have a wide variety of interactive responses. Certainly the devices of the future will begin to develop personalities as their software is refined, and their responses are tailored to the individual operating the device.

Because artificial intelligence involves the response of a machine to input from outside the machine—and the response is governed by a set of "rules"—the development of the complexity of those rules is really what software is all about. The more all-encompassing the software can be, the higher level of artificial intelligence these devices will achieve.

Of course the new designers will also be involved with hardware, because there are too many potential advances possible. In the area of semiconductors, for instance, the industry is rapidly developing Very Large Scale Integration (VLSI), the logical next step in the evolution of the single-chip, integrated circuit. These will carry many thousands of devices on each chip, and will increase the capability of any single semiconductor chip many times.

MORE DEDICATED CHIPS

Other advances in semiconductors will allow for a greater number of dedicated, mask programmable chips—a great value in the consumer electronics field because these chips will allow the user to determine for himself how to organize the capability of the chip for each particular product. In that way, the user will have a device that is proprietary to his product, using the built-in capabilities offered by the standard semiconductor.

Increasing use of mask programmability and VLSI will enable future low cost microprocessors to offer greatly in-

creased memory and more peripheral functions on board the single chip.

Speech synthesis is a technology already coming into its own. It is currently in continuous use in such diverse areas as the telephone company automatic information systems, military radio announcing systems and consumer products such as the home computer and language translators. It gives the computer another means of communication other than visual display. It is being applied to entertainment devices, toys, automotive systems ("Buckle up or I won't let you start the car."), personal care products and medical applications.

DEPENDENT ON SOFTWARE

In order for the speech synthesis device to be cost effective and efficient, however, the hardware being developed for it will have to depend heavily on the software used to encode the computer. If it is a device that uses compression of stored speech, the compression is a substantial effort. If it is synthesis using phonemes, the organization, inflection and tuning of those phonemes to produce realistic speech is a substantial software accomplishment.

In my opinion, the optimum speech synthesis devices will eventually use refined phoneme technology, where the software directing the device will be highly complex, perhaps even derived from the characteristics of recorded speech. In any event, the understanding of the new breed of designer for the software and the requirements of the product will ease the burden of these developments.

Speech recognition is a technology whose full application lags well behind that of speech synthesis, but it will be no less important as the decade wears on. Speech recognition is highly complex, and heavily software oriented.

This decade's designers should also make rapid advances in display technologies. Scientists and engineers continue to pursue the goal of a large area, flat panel, low-power graphics display. A number of technologies look promising, including liquid crystal display in both the twisted nematic and guest-host dye types. Others such as electrochromic and electrophoretic displays will have potential, while technologies such as vacuum fluorescent, gas discharge and electro-illuminant show

interesting potential for specific applications. The key to wide use of any of these technologies, however, will be its ability to produce a low-cost, low-power, visually attractive display.

The new breed of designer will also assume an important role in the advance of electronic module assemblies. These modules take individual chips and other circuit components, then tie them together in a circuit package, which is space and cost efficient in consumer product applications. The modules must allow for volume production and



A Smith Engineering employee interconnects electronic circuits on a prototype toy.

be adaptable to a variety of product applications.

Finally, a number of new power sources should greatly expand the horizons of our new breed of designers. The new flat batteries from Polaroid are a good example. They have a six volt rating, are able to perform well at short pulse and high drain conditions, and they have a unique configuration—only 3/16's of an inch thick. Many designers look for lithium chemistry to become predominant in the next decade if some cost and production problems can be worked out.

"Paper" batteries and one-time, reusable liquid-cell batteries also offer interesting possibilities, as do photo-voltaic cells. This latter type is really a solar cell battery which can be used with low-power electronics and peripherals to create a device that can be used in any kind of light—inside or out. When combined with storage battery capability, these devices can run very economically for long periods of time without replacement.

These and other electronic developments of the 1980s will be the play materials for our new breed of designer. As yet undiscovered technologies will add to the fun.

Jay Smith III is founder and president of Smith Engineering, Santa Monica, Calif. He is the inventor of such electronic toys as Milton Bradley's Microvision, Playskool's Star Rider and Aurora's AFX Data Race Computer Center.

Unisonic® Presents a Full Line of Walt Disney's

Mickey Mouse Electronic

"Fun 'n Numbers"™ Learning Aids

with 48 page fully illustrated activity book

Games, Puzzles,
Surprises and Fun!



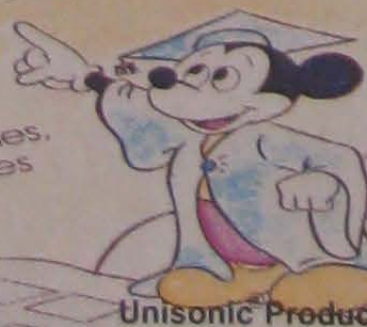
Unisonic introduces...an incredible new concept in learning fun—a full line of Walt Disney characters combined with dynamic design and fascinating activity books. Educational electronic toys are winning products. Open a whole new world of extra sales, appealing to parents and children!

We have a special division to handle this dynamic new category. The first three models of this exciting new line are available for immediate delivery. Additional new models will be available soon. With each "Fun 'n Numbers" game, there's a Walt Disney 48 page activity book, packed with puzzles, games and questions to make learning a playtime experience. Disney and Unisonic make sales magic! A winning combination of Unisonic's innovative design and Disney's 50 years of proven sales success. Get on the Disney bandwagon with us!



MICKEY MOUSE SCHOOL
MICKEY'S
SCHOOL QUIZ
FUN 'N NUMBERS BOOK

48-PAGE BOOK
packed with games,
puzzles, surprises
and fun!



MICKEY'S **SPACE QUIZ**
NUMBERS BOOK

48-PAGE BOOK
with games,
puzzles, surprises

Contact:
Unisonic Products, 1115 Broadway, NY, NY 10011
(212) 255-5400

© WALT DISNEY PRODUCTIONS